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qtatttaqqc tttqcctqct tqqtqtqatq taagggaaat tgaaagactt 1350
gcccattcaa aatgatcttt accgtggcct gccccatgct tatggtcccc 1400
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<210> 10
<211> 319
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<213> Homo sapiens
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<223> Signal Peptide
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<221> misc feature

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<222> 36-47, 108-113, 166-171,198-203, 207-212
<223> N-myristoylation Sites.
<220>
<221> misc feature
<222> 39-42
<223> Glycosaminoglycan Attachment Site.
<220>
<221> TRANSMEM
<222> 136-152
<223> Transmembrane Domain
<220>
<221> misc feature
\langle 222 \rangle 161-\overline{1}63, 187-190 and 253-256
<223> N-glycosylation Sites.
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 Met Leu Phe Trp Val Leu Gly Leu Leu Ile Leu Cys Gly Phe Leu
 Trp Thr Arg Lys Gly Lys Leu Lys Ile Glu Asp Ile Thr Asp Lys
                   20
 Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala
 Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys
                   50
 Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu
 Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val
 Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly
 Leu Trp Gly Leu Ile Asn Asn Ala Gly Val Pro Gly Val Leu Ala
                                                            120
                  110
 Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu
                  125
 Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro
                  140
 Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val
                  155
 Gly Gly Arg Leu Ala Ile Val Gly Gly Gly Tyr Thr Pro Ser Lys
                  170
                                       175
 Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys
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185

190

195

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Ala Phe Gly Val His 200 Val Ser Cys Ile Glu Pro Gly Leu Phe Lys 210

Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala 225

Ile Trp Glu Gln Leu 230 Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu 240

Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser 255

Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His 265

Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala 300

Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Glu Lys Ala Glu Leu Ala Asn 315
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Pro Lys Ala Val

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gccccttggg ccgtcgccac cactgtagtc atgtacccac cgccgccgcc 150
gccgcctcat cgggacttca tctcggtgac gctgagcttt ggcgagagct 200
atgacaacag caagagttgg cggcggcgct cgtgctggag gaaatggaag 250
caactgtcga gattgcagcg gaatatgatt ctctcctcc ttgccttct 300
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caccgaccct gagaacttac ctgagattc gtcacagaag acacaaagac 500
acatccagcg gggaccacct cacctgcaga ttagacccc aagccaagac 550
ctgaaggatg ggacccagga ggaggccaca aaaaggcaag aagcccctgt 600
ggatccccgc ccggaaggag atccgcagag gacagtcatc agctggaggg 650

gageggtgat egageetgag eagggeaceg ageteeette aagaagagea 700 gaagtgccca ccaagcctcc cctgccaccg gccaggacac agggcacacc 750 agtgcatctg aactatcgcc agaagggcgt gattgacgtc ttcctgcatg 800 catggaaagg ataccgcaag tttgcatggg gccatgacga gctgaagcct 850 gtgtccaggt ccttcagtga gtggtttggc ctcggtctca cactgatcga 900 cgcgctggac accatgtgga tcttgggtct gaggaaagaa tttgaggaag 950 ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000 aacctgtttg agagcacgat ccgcatcctg ggggggctcc tgagtgccta 1050 ccacctgtct ggggacagcc tcttcctgag gaaagctgag gattttggaa 1100 atcggctaat gcctgccttc agaacaccat ccaagattcc ttactcggat 1150 gtgaacatcg gtactggagt tgcccacccg ccacggtgga cctccgacag 1200 cactgtggcc gaggtgacca gcattcagct ggagttccgg gagctctccc 1250 gtctcacagg ggataagaag tttcaggagg cagtggagaa ggtgacacag 1300 cacatccacg gcctgtctgg gaagaaggat gggctggtgc ccatgttcat 1350 caatacccac agtggcctct tcacccacct gggcgtattc acgctgggcg 1400 ccagggccga cagctactat gagtacctgc tgaagcagtg gatccagggc 1450 gggaagcagg agacacagct gctggaagac tacgtggaag ccatcgaggg 1500 tgtcagaacg cacctgctgc ggcactccga gcccagtaag ctcacctttg 1550 tgggggaget tgcccacggc cgcttcagtg ccaagatgga ccacctggtg 1600 tgcttcctgc cagggacgct ggctctgggc gtctaccacg gcctgcccgc 1650 cagccacatg gagctggccc aggagctcat ggagacttgt taccagatga 1700 accggcagat ggagacgggg ctgagtcccg agatcgtgca cttcaacctt 1750 taccccagc cgggccgtcg ggacgtggag gtcaagccag cagacaggca 1800 caacctgctg cggccagaga ccgtggagag cctgttctac ctgtaccgcg 1850 tcacagggga ccgcaaatac caggactggg gctgggagat tctgcagagc 1900 ttcagccgat tcacacgggt cccctcgggt ggctattctt ccatcaacaa 1950 tgtccaggat cctcagaagc ccgagcctag ggacaagatg gagagcttct 2000 tcctggggga gacgctcaag tatctgttct tgctcttctc cgatgaccca 2050 aacctgctca gcctggacgc ctacgtgttc aacaccgaag cccaccctct 2100 gectatetgg accectgect agggtggatg getgetggtg tggggaette 2150 gggtgggcag aggeacettg etgggtetgt ggcatttee aagggeeeae 2200 gtageaeegg caacegeeaa gtggeeeagg etetgaaetg getetggget 2250 ceteetegte tetgetttaa teaggaeaee gtgaggaeaa gtgaggeegt 2300 cagtettggt gtgatgegg gtgggetggg eegetggage eteegeege 2350 tteeteeaga agacaegaat eatgaeteae gattgetgaa geetgageag 2400 gteetgtgg geegaeeaa ggggggette gaggtggtee etggtaetgg 2450 ggtgaeegag tggaeagee agggtgeage tetgeeegg etegtgaage 2500 eteagatgte eecaateeaa gggtetgaag gggetgeegt gaeteeagag 2550 geetgagget eeagggetgg etetggagg ggetgeegt gaeteeagag 2550 geetgagget eeagggetgg etetggat taeaagetgg aeteagggat 2600 eeteetggee geeeegeagg gggettggag ggetggaegg eaagteegte 2650 tageteaeg geeeeteeag tggaatgget ettteggtg gagataaaag 2700 ttgattget etaaeegeaa 2720

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<210> 12
<211> 699
<212> PRT
<213> Homo sapiens
<220>
<221> TRANSMEM
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<221> TRANSMEM <222> 21-40 and 84-105

<223> Transmembrane Domain (type II)

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His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr 50 55 60

Asp Asn Ser Lys Ser Trp Arg Arg Arg Ser Cys Trp Arg Lys Trp 65 70 75

Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu 80 85 90

Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala 95 100 105 Asp His Trp Lys Ala Leu Ala Phe Arg Leu Glu Glu Gln Lys 110 Met Arg Pro Glu Ile Ala Gly Leu Lys Pro Ala Asn Pro Pro Val Leu Pro Ala Pro Gln Lys Ala Asp Thr Asp Pro Glu Asn Leu Pro Glu Ile Ser Ser Gln Lys Thr Gln Arg His Ile Gln Arg Gly Pro Pro His Leu Gln Ile Arg Pro Pro Ser Gln Asp Leu Lys Asp Gly 170 Thr Gln Glu Glu Ala Thr Lys Arg Gln Glu Ala Pro Val Asp Pro 185 Arg Pro Glu Gly Asp Pro Gln Arg Thr Val Ile Ser Trp Arg Gly 205 200 Ala Val Ile Glu Pro Glu Gln Gly Thr Glu Leu Pro Ser Arg Arg 215 Ala Glu Val Pro Thr Lys Pro Pro Leu Pro Pro Ala Arg Thr Gln 240 235 230 Gly Thr Pro Val His Leu Asn Tyr Arg Gln Lys Gly Val Ile Asp 245 Val Phe Leu His Ala Trp Lys Gly Tyr Arg Lys Phe Ala Trp Gly His Asp Glu Leu Lys Pro Val Ser Arg Ser Phe Ser Glu Trp Phe 275 Gly Leu Gly Leu Thr Leu Ile Asp Ala Leu Asp Thr Met Trp Ile 300 290 Leu Gly Leu Arg Lys Glu Phe Glu Glu Ala Arg Lys Trp Val Ser 305 Lys Lys Leu His Phe Glu Lys Asp Val Asp Val Asn Leu Phe Glu 330 Ser Thr Ile Arg Ile Leu Gly Gly Leu Leu Ser Ala Tyr His Leu 335 Ser Gly Asp Ser Leu Phe Leu Arg Lys Ala Glu Asp Phe Gly Asn 360 350 Arg Leu Met Pro Ala Phe Arg Thr Pro Ser Lys Ile Pro Tyr Ser 365 Asp Val Asn Ile Gly Thr Gly Val Ala His Pro Pro Arg Trp Thr 390 380 Ser Asp Ser Thr Val Ala Glu Val Thr Ser Ile Gln Leu Glu Phe

				395					400					405
Arg	Glu	Leu	Ser	Arg 410	Leu	Thr	Gly	Asp	Lys 415	Lys	Phe	Gln	Glu	Ala 420
Val	Glu	Lys	Val	Thr 425	Gln	His	Ile	His	Gly 430	Leu	Ser	Gly	Lys	Lys 435
Asp	Gly	Leu	Val	Pro 440	Met	Phe	Ile	Asn	Thr 445	His	Ser	Gly	Leu	Phe 450
Thr	His	Leu	Gly	Val 455	Phe	Thr	Leu	Gly	Ala 460	Arg	Ala	Asp	Ser	Tyr 465
Tyr	Glu	Tyr	Leu	Leu 470	Lys	Gln	Trp	Ile	Gln 475	Gly	Gly	Lys	Gln	Glu 480
Thr	Gln	Leu	Leu	Glu 485	Asp	Tyr	Val	Glu	Ala 490	Ile	Glu	Gly	Val	Arg 495
Thr	His	Leu	Leu	Arg 500	His	Ser	Glu	Pro	Ser 505	Lys	Leu	Thr	Phe	Val 510
Gly	Glu	Leu	Ala	His 515	Gly	Arg	Phe	Ser	Ala 520	Lys	Met	Asp	His	Leu 525
Val	Cys	Phe	Leu	Pro 530	Gly	Thr	Leu	Ala	Leu 535	Gly	Val	Tyr	His	Gly 540
Leu	Pro	Ala	Ser	His 545	Met	Glu	Leu	Ala	Gln 550	Glu	Leu	Met	Glu	Thr 555
Cys	Tyr	Gln	Met	Asn 560	Arg	Gln	Met	Glu	Thr 565	Gly	Leu	Ser	Pro	Glu 570
Ile	Val	His	Phe	Asn 575	Leu	Tyr	Pro	Gln	Pro 580	Gly	Arg	Arg	Asp	Val 585
Glu	Val	Lys	Pro	Ala 590	Asp	Arg	His	Asn	Leu 595	Leu	Arg	Pro	Glu	Thr 600
Val	Glu	Ser	Leu	Phe 605	Tyr	Leu	Tyr	Arg	Val 610	Thr	Gly	Asp	Arg	Lys 615
Tyr	Gln	Asp	Trp	Gly 620	Trp	Glu	Ile	Leu	Gln 625	Ser	Phe	Ser	Arg	Phe 630
Thr	Arg	Val	Pro	Ser 635	Gly	Gly	Tyr	Ser	Ser 640	Ile	Asn	Asn	Val	Gln 645
Asp	Pro	Gln	Lys	Pro 650	Glu	Pro	Arg	Asp	Lys 655	Met	Glu	Ser	Phe	Phe 660
Leu	Gly	Glu	Thr	Leu 665	Lys	Tyr	Leu	Phe	Leu 670	Leu	Phe	Ser	Asp	Asp 675
Pro	Asn	Leu	Leu	Ser 680	Leu	Asp	Ala	Tyr	Val 685		Asn	Thr	Glu	Ala 690

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695
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<211> 24
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 13
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<210> 14
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 14
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<210> 15
<211> 44
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-44
<223> Synthetic construct.
<400> 15
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<210> 16
<211> 1524
<212> DNA
<213> Homo sapiens
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 cccatgcgcc gccgcctctc cgcacgatgt tcccctcgcg gaggaaagcg 100
 gcgcagctgc cctgggagga cggcaggtcc gggttgctct ccggcggcct 150
 ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200
 gettettete cetaetetgg etgeagetea getgetetgg ggaegtggee 250
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His Pro Leu Pro Ile Trp Thr Pro Ala

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cccccagag ccgcccctg agcactggga agaagacgca tcctggggcc 350
cccaccgcct ggcagtgctg gtgcccttcc gcgaacgctt cgaggagctc 400
ctggtcttcg tgccccacat gcgccgcttc ctgagcagga agaagatccg 450
gcaccacatc tacgtgctca accaggtgga ccacttcagg ttcaaccggg 500
cagcgctcat caacgtgggc ttcctggaga gcagcaacag cacggactac 550
attgccatgc acgacgttga cctgctccct ctcaacgagg agctggacta 600
tggctttcct gaggctgggc ccttccacgt ggcctccccg gagctccacc 650
ctctctacca ctacaagacc tatgtcggcg gcatcctgct gctctccaag 700
cagcactacc ggctgtgcaa tgggatgtcc aaccgcttct ggggctgggg 750
ccgcgaggac gacgagttct accggcgcat taagggagct gggctccagc 800
ttttccgccc ctcgggaatc acaactgggt acaagacatt tcgccacctg 850
catgacccag cctggcggaa gagggaccag aagcgcatcg cagctcaaaa 900
acaggagcag ttcaaggtgg acagggaggg aggcctgaac actgtgaagt 950
accatgtggc ttcccgcact gccctgtctg tgggcggggc cccctgcact 1000
gtcctcaaca tcatgttgga ctgtgacaag accgccacac cctggtgcac 1050
attcagctga gctggatgga cagtgaggaa gcctgtacct acaggccata 1100
ttgctcaggc tcaggacaag gcctcaggtc gtgggcccag ctctgacagg 1150
atgtggagtg gccaggacca agacagcaag ctacgcaatt gcagccaccc 1200
ggccgccaag gcaggcttgg gctgggccag gacacgtggg gtgcctggga 1250
cgctgcttgc catgcacagt gatcagagag aggctggggt gtgtcctgtc 1300
cgggacccc cctgccttcc tgctcaccct actctgacct ccttcacgtg 1350
cccaggcctg tgggtagtgg ggagggctga acaggacaac ctctcatcac 1400
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<220>

<210> 17

<211> 327

<212> PRT

<213> Homo sapiens

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<222> 1-4\overline{2}
<223> Signal peptide.
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<221> misc feature
<222> 19-25,65-71,247-253,285-291,303-310
<223> N-myristoylation site.
<220>
<221> misc feature
<222> 27-31
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.
<220>
<221> TRANSMEM
<222> 29-49
<223> Transmembrane domain (type II).
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<221> misc feature
<222> 154-158
<223> N-glycosylation site.
<220>
<221> misc feature
<222> 226-233
<223> Tyrosine kinase phosphorylation site.
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 Gly Arg Ser Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser
 Val Phe His Leu Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser
 Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala
 Val Arg Gly Gln Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys
 Pro Pro Glu Pro Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp
 Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe
                   95
 Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser
                                      115
                  110
 Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp
                                                           135
                  125
 His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu
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					140					145					150
	Glu	Ser	Ser	Asn	Ser 155	Thr	Asp	Tyr	Ile	Ala 160	Met	His	Asp	Val	Asp 165
	Leu	Leu	Pro	Leu	Asn 170	Glu	Glu	Leu	Asp	Tyr 175	Gly	Phe	Pro	Glu	Ala 180
	Gly	Pro	Phe	His	Val 185	Ala	Ser	Pro	Glu	Leu 190	His	Pro	Leu	Tyr	His 195
	Tyr	Lys	Thr	Tyr	Val 200	Gly	Gly	Ile	Leu	Leu 205	Leu	Ser	Lys	Gln	His 210
	Tyr	Arg	Leu	Cys	Asn 215	Gly	Met	Ser	Asn	Arg 220	Phe	Trp	Gly	Trp	Gly 225
	Arg	Glu	Asp	Asp	Glu 230	Phe	Tyr	Arg	Arg	Ile 235	Lys	Gly	Ala	Gly	Leu 240
	Gln	Leu	Phe	Arg	Pro 245	Ser	Gly	Ile	Thr	Thr 250	Gly	Tyr	Lys	Thr	Phe 255
	Arg	His	Leu	His	Asp 260	Pro	Ala	Trp	Arg	Lys 265	Arg	Asp	Gln	Lys	Arg 270
	Ile	Ala	Ala	Gln	Lys 275	Gln	Glu	Gln	Phe	Lys 280	Val	Asp	Arg	Glu	Gly 285
	Gly	Leu	Asn	Thr	Val 290	Lys	Tyr	His	Val	Ala 295	Ser	Arg	Thr	Ala	Leu 300
	Ser	Val	Gly	Gly	Ala 305	Pro	Cys	Thr	Val	Leu 310	Asn	Ile	Met	Leu	Asp 315
	Cys	Asp	Lys	Thr	Ala 320	Thr	Pro	Trp	Cys	Thr 325	Phe	Ser			
	<210														
	<211														
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<211> 46
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<213> Artificial
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<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
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<210> 21
<211> 494
<212> DNA
<213> Homo sapiens
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 gactggtcgg tgcccagaaa gtctcttctg ccactgacgc ccccatcagg 150
 gattgggcct tctttccccc ttcctttctg tgtctcctgc ctcatcggcc 200
 tgccatgacc tgcagccaag cccagccccg tggggaaggg gagaaagtgg 250
 gggatggcta agaaagctgg gagataggga acagaagagg gtagtgggtg 300
 ggctaggggg gctgccttat ttaaagtggt tgtttatgat tcttatacta 350
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<213> Homo sapiens
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<222> 1-15
<223> Signal peptide.
<220>
<221> misc feature
<222> 3-18
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<223> Growth factor and cytokines receptors family.

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Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Pro Pro Ser 35 40 45

Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln 50 55 60

Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly
65 70

<210> 23

<211> 2883

<212> DNA

<213> Homo sapiens

<400> 23

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<223> Transmembrane domain (type II).

<400> 24

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Leu Leu Pro Leu Ser Leu Leu Ala Leu Leu Ala Leu Leu Gly Gly $20 \\ 25 \\ 30$

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35 40 45

Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu
50 55 60

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro
65 70 75

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn 80 85 90

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile 185 Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe 245 Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln 375 Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro

390 380 385 Gln Asp Glu Arg Lys Ala Trp Arg Arg Cys Asp Arg Gly Gly Phe 395 Trp Ala Asp Asp Tyr Ser Arg Cys Gln Tyr Ala Asn Asp Val Thr Arg Val Leu Tyr Met Phe Asn Gln Met Pro Leu Asn Leu Thr 425 Asn Ala Val Ala Thr Ala Arg Gln Leu Leu Ala Tyr Thr Val Glu Ala Ala Asn Phe Ser Asp Lys Met Asp Val Ile Phe Val Ala Glu 455 Met Ile Glu Lys Phe Gly Arg Phe Thr Lys Glu Glu Lys Ser Lys 470 Glu Leu Gly Asp Val Met Val Asp Ile Ala Ser Asn Ile Met Leu 490 485 Ala Asp Glu Arg Val Leu Trp Leu Ala Gln Arg Glu Ala Lys Ala 500 Cys Ser Arg Ile Val Gln Cys Leu Gln Arg Ile Ala Thr Tyr Arg 525 520 515 Leu Ala Gly Gly Ala His Val Tyr Ser Thr Tyr Ser Pro Asn Ile 530 Ala Leu Glu Ala Tyr Val Ile Lys Ser Thr Gly Phe Thr Gly Met 555 545 Thr Cys Thr Val Phe Gln Lys Val Ala Ala Ser Asp Arg Thr Gly 560 Leu Ser Asp Tyr Gly Arg Arg Asp Pro Glu Gly Asn Leu Asp Lys 585 575 Gln Leu Ser Phe Lys Cys Asn Val Ser Asn Thr Phe Ser Ser Leu Ala Leu Lys Val Cys Tyr Ile Leu Gln Ser Phe Lys Thr Ile Tyr 615 605

Ser

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<211> 24

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<222> 1-24

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- <212> PRT
- <213> Homo sapiens
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- <223> Signal peptide.
- <400> 29

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Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp 20 25 30

Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln 35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile
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Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala 65 70 75

Lys Gly Ser Gln Lys Ser 80

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- <211> 2128
- <212> DNA
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<211> 322

<212> PRT

<213> Homo sapiens

<400> 31

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Ser Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg

Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val 35

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys 65

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe 95

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr 110

Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp 135 125

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala 140

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile 155

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu 170

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn 195 185

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr 210 200

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Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu
                                                        240
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Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu
                                                        255
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Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gln
Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr
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Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr
Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala
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His Leu Val Phe Val Lys Val
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<212> PRT

<213> Homo sapiens

<400> 33

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Phe Gly Thr Val Ser Cys Glu Tyr Met Leu Gly Ser Pro Leu Ser 20 25 30

Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val 35 40 45

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu 50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu 65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro 80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys 95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala 110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg 125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys 140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp 155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala 170 175

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly 185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu 200 205

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser 215 220 225

Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu 230 235 240

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Pro Ser Arg Glu Ser Ala Phe Arg Ser Leu Gly Pro Leu Glu Ala
Gln Asp Ser Leu Tyr Asn Ser Pro Leu Thr Glu Ser Cys Leu Ser
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                                                          285
                 275
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Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser
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<400> 36
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ttccactcaa tgaggtgagc cactc 25
<210> 37
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<220>
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<222> 1-23
<223> Synthetic construct.
<400> 37
ggcgagccct aactatccag gag 23
<210> 38
<211> 39
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<222> 1-39
<223> Synthetic construct.
<400> 38
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<211> 22
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<222> 1-22
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<400> 39
ctgctgcaaa gcgagcctct tg 22
<210> 40
<211> 2084
<212> DNA
<213> Homo sapiens
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 ggttcctggg cgctctgtta cacaagcaag atacagccag ccccacctaa 50
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 ccatctgttt tctctaatgc acgacagatt cctttcagac aggacaactg 150
 tgatatttca gttcctgatt gtaaatacct cctaagcctg aagcttctgt 200
 tactagccat tgtgagcttc agtttcttca tctgcaaaat gggcataata 250
 caatctattc ttgccacatc aagggattgt tattccttta aaaaaaaacc 300
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145

Total Cont

i ap

Į,ųį

, #F

1,84

1112

aataccaaag aagcctacaa tgttggcctt agccaaaatt ctgttgattt 350 caacgttgtt ttattcactt ctatcgggga gccatggaaa agaaaatcaa 400 gacataaaca caacacagaa cattgcagaa gtttttaaaa caatggaaaa 450 taaacctatt tctttggaaa gtgaagcaaa cttaaactca gataaagaaa 500 atataaccac ctcaaatctc aaggcgagtc attcccctcc tttgaatcta 550 cccaacaaca gccacggaat aacagatttc tccagtaact catcagcaga 600 gcattetttg ggcagtetaa aacceacate taccatttee acaageeete 650 ccttgatcca tagctttgtt tctaaagtgc cttggaatgc acctatagca 700 gatgaagatc ttttgcccat ctcagcacat cccaatgcta cacctgctct 750 gtcttcagaa aacttcactt ggtctttggt caatgacacc gtgaaaactc 800 ctgataacag ttccattaca gttagcatcc tctcttcaga accaacttct 850 ccatctgtga cccccttgat agtggaacca agtggatggc ttaccacaaa 900 cagtgatagc ttcactgggt ttacccctta tcaagaaaaa acaactctac 950 agcctacctt aaaattcacc aataattcaa aactctttcc aaatacgtca 1000 gatccccaaa aagaaaatag aaatacagga atagtattcg gggccatttt 1050 aggtgctatt ctgggtgtct cattgcttac tcttgtgggc tacttgttgt 1100 gtggaaaaag gaaaacggat tcattttccc atcggcgact ttatgacgac 1150 agaaatgaac cagttctgcg attagacaat gcaccggaac cttatgatgt 1200 gagttttggg aattctagct actacaatcc aactttgaat gattcagcca 1250 tgccagaaag tgaagaaaat gcacgtgatg gcattcctat ggatgacata 1300 cctccacttc gtacttctgt atagaactaa cagcaaaaag gcgttaaaca 1350 gcaagtgtca tctacatcct agccttttga caaattcatc tttcaaaagg 1400 ttacacaaaa ttactgtcac gtggattttg tcaaggagaa tcataaaagc 1450 aggagaccag tagcagaaat gtagacagga tgtatcatcc aaaggttttc 1500 tttcttacaa tttttggcca tcctgaggca tttactaagt agccttaatt 1550 tgtattttag tagtattttc ttagtagaaa atatttgtgg aatcagataa 1600 aactaaaaga tttcaccatt acagccctgc ctcataacta aataataaaa 1650 attattccac caaaaaattc taaaacaatg aagatgactc tttactgctc 1700 tgcctgaagc cctagtacca taattcaaga ttgcattttc ttaaatgaaa 1750 attgaaagg tgcttttaa agaaaatttg acttaaagct aaaaagagga 1800 catagcccag agtttctgtt attgggaaat tgaggcaata gaaatgacag 1850 acctgtattc tagtacgtta taattttcta gatcagcaca cacatgatca 1900 gcccactgag ttatgaagct gacaatgact gcattcaacg gggccatggc 1950 aggaaagctg accctaccca ggaaagtaat agcttctta aaagtcttca 2000 aaggttttgg gaattttaac ttgtcttaat atacttagg cttcaattat 2050 ttgggtgcct taaaaactca atgagaatca tggt 2084

<210> 41

<211> 334

<212> PRT

<213> Homo sapiens

<400> 41

Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr 1 5 10 15

Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn 20 25 30

Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys 35 40 45

Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu 50 55 60

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu 65 70 75

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn 80 85 90

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr 95 100 105

Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val

Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser 125 130 135

Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr

Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser 155 160 165

Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val 170 175 180

Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser 185 190 195

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Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu
Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn
                215
Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe
                                                         240
                                    235
                230
Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser
His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu
                275
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser
                290
Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu
Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu
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Arg Thr Ser Val

<210> 42 <211> 1594 <212> DNA <213> Homo sapiens

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gcettacege geageeegaa gatteactat ggtgaaaate geetteaata 100
ceectacege egtgeaaaag gaggaggege ggeaagaegt ggaggeeete 150
ctgageegea eggteagaae teagataetg aceggeaagg ageteegagt 200
tgeeaceeag gaaaaagagg geteetetgg gagatgtatg ettaetetet 250
taggeettte atteatettg geaggaetta ttgttggtgg ageetgeatt 300
tacaagtaet teatgeeeaa gageaceatt tacegtggag agatgtett 350
ttttgattet gaggateetg caaatteeet tegtggagga gageetaaet 400
teetgeetgt gaetgaggag getgaeatte gtgaggatga caacattgea 450
atcattgatg tgeetgteee eagtteetet gatagtgaee etgetgega 550

ggaactgcta tctgatgccc ctcaatactt ctattgttat gcctccaaaa 600 aatctggtag agctctttgg caaactggcg agtggcagat atctgcctca 650 aacttatgtg gttcgagaag acctagttgc tgtggaggaa attcgtgatg 700 ttagtaacct tggcatcttt atttaccaac tttgcaataa cagaaagtcc 750 ttccgccttc gtcgcagaga cctcttgctg ggtttcaaca aacgtgccat 800 tgataaatgc tggaagatta gacacttccc caacgaattt attgttgaga 850 ccaagatctg tcaagagtaa gaggcaacag atagagtgtc cttggtaata 900 agaagtcaga gatttacaat atgactttaa cattaaggtt tatgggatac 950 tcaagatatt tactcatgca tttactctat tgcttatgct ttaaaaaaag 1000 gaaaaaaaa aaaactacta accactgcaa gctcttgtca aattttagtt 1050 taattggcat tgcttgtttt ttgaaactga aattacatga gtttcatttt 1100 ttctttgcat ttatagggtt tagatttctg aaagcagcat gaatatatca 1150 cctaacatcc tgacaataaa ttccatccgt tgtttttttt gtttgtttgt 1200 tttttctttt cctttaagta agctctttat tcatcttatg gtggagcaat 1250 tttaaaattt gaaatatttt aaattgtttt tgaacttttt gtgtaaaata 1300 tatcagatct caacattgtt ggtttctttt gtttttcatt ttgtacaact 1350 ttcttgaatt tagaaattac atctttgcag ttctgttagg tgctctgtaa 1400 ttaacctgac ttatatgtga acaattttca tgagacagtc atttttaact 1450 aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500 tgtgtaggtg ctgaatgctg taaggagttt aggttgtatg aattctacaa 1550

<210> 43 <211> 263

<212> PRT

<213> Homo sapiens

<400> 43

Met Val Lys Ile Ala Phe Asn Thr Pro Thr Ala Val Gln Lys Glu
1 5 10 15

Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg
20 25 30

Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu
35 40 45

Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu

60 55 50 Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Glu Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp 135 130 Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr Ala Tyr Leu Asp Leu Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu 155 Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe 170 Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val 185 Arg Glu Asp Leu Val Ala Val Glu Glu Ile Arg Asp Val Ser Asn Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe Arg Leu Arg Arg Arg Asp Leu Leu Gly Phe Asn Lys Arg Ala 230 Ile Asp Lys Cys Trp Lys Ile Arg His Phe Pro Asn Glu Phe Ile 250 245 Val Glu Thr Lys Ile Cys Gln Glu 260 <210> 44 <211> 24 <212> DNA <213> Artificial

<220>

<221> Artificial sequence

<222> 1-24

<223> Synthetic construct.

<400> 44

qaaagacacg acacagcagc ttgc 24

<210> 45

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<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-20
<223> Synthetic construct.
<400> 45
 gggaactgct atctgatgcc 20
<210> 46
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-26
<223> Synthetic construct.
<400> 46
caggatetee tettgeagte tgeage 26
<210> 47
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-28
<223> Synthetic construct.
<400> 47
cttctcgaac cacataagtt tgaggcag 28
<210> 48
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 48
 cacgattccc tccacagcaa ctggg 25
<210> 49
<211> 1969
<212> DNA
<213> Homo sapiens
<400> 49
 ggaggaggga gggcgggcag gcgccagccc agagcagccc cgggcaccag 50
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: 15 =

195

1 15 2

cacggactet etettecage ceaggtgeee eccaeteteg etecattegg 100 cgggagcacc cagtcctgta cgccaaggaa ctggtcctgg gggcaccatg 150 gtttcggcgg cagcccccag cctcctcatc cttctgttgc tgctgctggg 200 gtctgtgcct gctaccgacg cccgctctgt gcccctgaag gccacgttcc 250 tggaggatgt ggcgggtagt ggggaggccg agggctcgtc ggcctcctcc 300 cegageetee egecaecetg gaceeeggee eteageecea categatggg 350 gocccagooc acaaccotgg ggggcccatc acccccacc aacttcctgg 400 atgggatagt ggacttette egceagtacg tgatgetgat tgetgtggtg 450 ggctccctgg cctttctgct gatgttcatc gtctgtgccg cggtcatcac 500 ccggcagaag cagaaggcct cggcctatta cccatcgtcc ttccccaaga 550 agaagtacgt ggaccagagt gaccgggccg ggggcccccg ggccttcagt 600 gaggtccccg acagagcccc cgacagcagg cccgaggaag ccctggattc 650 ctcccggcag ctccaggccg acatcttggc cgccacccag aacctcaagt 700 ccccaccag ggctgcactg ggcggtgggg acggagccag gatggtggag 750 ggcaggggcg cagaggaaga ggagaagggc agccaggagg gggaccagga 800 agtocaggga catggggtcc cagtggagac accagaggcg caggaggagc 850 cgtgctcagg ggtccttgag ggggctgtgg tggccggtga gggccaaggg 900 gagetggaag ggtetetett gttageecag gaageecagg gaecagtggg 950 tcccccgaa agcccctgtg cttgcagcag tgtccacccc agtgtctaac 1000 agtecteccg ggetgecage cetgactgte gggececeaa gtggteacet 1050 ccccgtgtat gaaaaggcct tcagccctga ctgcttcctg acactccctc 1100 cttggcctcc ctgtggtgcc aatcccagca tgtgctgatt ctacagcagg 1150 cagaaatgct ggtccccggt gccccggagg aatcttacca agtgccatca 1200 teetteacet cageageece aaagggetae ateetacage acageteece 1250 tgacaaagtg agggagggca cgtgtccctg tgacagccag gataaaacat 1300 cccccaaagt gctgggatta caggcgtgag ccaccgtgcc cggcccaaac 1350 tactttttaa aacagctaca gggtaaaatc ctgcagcacc cactctggaa 1400 aatactgctc ttaattttcc tgaaggtggc cccctgtttc tagttggtcc 1450 aggattaggg atgtggggta tagggcattt aaatcctctc aagcgctctc 1500

<210> 50 <211> 283 <212> PRT <213> Homo sapiens

<400> 50 Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu 5 Leu Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu Lys Ala Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu Gly Ser Ser Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val Gly Ser Leu Ala Phe Leu Leu Met Phe Ile Val Cys Ala Ala Val Ile Thr Arg Gln 110 Lys Gln Lys Ala Ser Ala Tyr Tyr Pro Ser Ser Phe Pro Lys Lys 130 125 Lys Tyr Val Asp Gln Ser Asp Arg Ala Gly Gly Pro Arg Ala Phe Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg Pro Glu Glu Ala

160

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Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr
                170
Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp
Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Lys
Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro
                215
Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly
Ser Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro
Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
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<210> 51 <211> 1734 <212> DNA

<213> Homo sapiens

<400> 51 gtqqactctq agaaqcccaq qcaqttqaqq acaqqaqaqa qaaqqctgca 50 gacccagagg gaggaggac agggagtcgg aaggaggagg acagaggagg 100 qcacaqaqac qcaqaqcaaq qqcqqcaaqq aqqaqaccct qqtqqgagga 150 agacactctg gagagagag gggctgggca gagatgaagt tccaggggcc 200 cctggcctgc ctcctgctgg ccctctgcct gggcagtggg gaggctggcc 250 ccctgcagag cggagaggaa agcactggga caaatattgg ggaggccctt 300 qqacatqqcc tqqqaqacqc cctqaqcqaa qqqqtqqqaa aqqccattqg 350 caaaqaqqcc qqaqqqcaq ctqqctctaa aqtcaqtqaq qcccttqqcc 400 aagggaccag agaagcagtt ggcactggag tcaggcaggt tccaggcttt 450 ggcgcagcag atgctttggg caacagggtc ggggaagcag cccatgctct 500 gggaaacact gggcacgaga ttggcagaca ggcagaagat gtcattcgac 550 acggagcaga tgctgtccgc ggctcctggc agggggtgcc tggccacagt 600 ggtgcttggg aaacttctgg aggccatggc atctttggct ctcaaggtgg 650 ccttqqaqqc caqqqccaqq qcaatcctqq aqqtctqqqq actccqtqqq 700

tccacqqata ccccqqaaac tcaqcaqqca qctttqqaat qaatcctcaq 750 ggagctccct ggggtcaagg aggcaatgga gggccaccaa actttgggac 800 caacactcag ggagctgtgg cccagcctgg ctatggttca gtgagagcca 850 gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctcaggtgga 900 ggctccagca actctggggg aggcagcggc tcacagtcgg gcagcagtgg 950 cagtggcagc aatggtgaca acaacaatgg cagcagcagt ggtggcagca 1000 gcagtggcag cagcagtggc agcagcagtg gcggcagcag tggcggcagc 1050 agtggtggca gcagtggcaa cagtggtggc agcagaggtg acagcggcag 1100 tgagtcctcc tggggatcca gcaccggctc ctcctccggc aaccacggtg 1150 qqaqcqqcqq aqqaaatqqa cataaacccq qqtqtqaaaa qccaqqqaat 1200 gaagcccgcg ggagcgggga atctgggatt cagggcttca gaggacaggg 1250 agtttccagc aacatgaggg aaataagcaa agagggcaat cgcctccttg 1300 gaggctctgg agacaattat cgggggcaag ggtcgagctg gggcagtgga 1350 ggaggtgacg ctgttggtgg agtcaatact gtgaactctg agacgtctcc 1400 tgggatgttt aactttgaca ctttctggaa gaattttaaa tccaagctgg 1450 gtttcatcaa ctgggatgcc ataaacaagg accagagaag ctctcgcatc 1500 ccgtgacctc cagacaagga gccaccagat tggatgggag cccccacact 1550 coctocttaa aacaccacco totoatoact aatotoagoo ottgocottg 1600 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1700 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1734

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<210> 52
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Thr Gly Thr Asn Ile Gly Glu Ala Leu Gly His Gly Leu Gly Asp 35 40 45

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly

<211> 440

<212> PRT

<213> Homo sapiens

<400> 52

Met Lys Phe Gln Gly Pro Leu Ala Cys Leu Leu Leu Ala Leu Cys 1 5 10 15

Leu Gly Ser Gly Glu Ala Gly Pro Leu Gln Ser Gly Glu Glu Ser
20 25 30

				50					55					60
Gly	Ala	Ala	Gly	Ser 65	Lys	Val	Ser	Glu	Ala 70	Leu	Gly	Gln	Gly	Th:
Arg	Glu	Ala	Val	Gly 80	Thr	Gly	Val	Arg	Gln 85	Val	Pro	Gly	Phe	Gl ₃
Ala	Ala	Asp	Ala	Leu 95	Gly	Asn	Arg	Val	Gly 100	Glu	Ala	Ala	His	Ala 10
Leu	Gly	Asn	Thr	Gly 110	His	Glu	Ile	Gly	Arg 115	Gln	Ala	Glu	Asp	Va. 120
Ile	Arg	His	Gly	Ala 125	Asp	Ala	Val	Arg	Gly 130	Ser	Trp	Gln	Gly	Va:
Pro	Gly	His	Ser	Gly 140	Ala	Trp	Glu	Thr	Ser 145	Gly	Gly	His	Gly	Ile 150
Phe	Gly	Ser	Gln	Gly 155	Gly	Leu	Gly	Gly	Gln 160	Gly	Gln	Gly	Asn	Pro 16
Gly	Gly	Leu	Gly	Thr 170	Pro	Trp	Val	His	Gly 175	Tyr	Pro	Gly	Asn	Se:
Ala	Gly ·	Ser	Phe	Gly 185	Met	Asn	Pro	Gln	Gly 190	Ala	Pro	Trp	Gly	Gl: 19:
Gly	Gly	Asn	Gly	Gly 200	Pro	Pro	Asn	Phe	Gly 205	Thr	Asn	Thr	Gln	Gl ₂
Ala	Val	Ala	Gln	Pro 215	Gly	Tyr	Gly	Ser	Val 220	Arg	Ala	Ser	Asn	Gl: 22
Asn	Glu	Gly	Cys	Thr 230	Asn	Pro	Pro	Pro	Ser 235	Gly	Ser	Gly	Gly	G1:
Ser	Ser	Asn	Ser	Gly 245	Gly	Gly	Ser	Gly	Ser 250	Gln	Ser	Gly	Ser	Se:
Gly	Ser	Gly	Ser	Asn 260	Gly	Asp	Asn	Asn	Asn 265	Gly	Ser	Ser	Ser	Gl: 27
Gly	Ser	Ser	Ser	Gly 275	Ser	Ser	Ser	Gly	Ser 280	Ser	Ser	Gly	Gly	Se:
Ser	Gly	Gly	Ser	Ser 290	Gly	Gly	Ser	Ser	Gly 295	Asn	Ser	Gly	Gly	Se:
Arg	Gly	Asp	Ser	Gly 305	Ser	Glu	Ser	Ser	Trp 310	Gly	Ser	Ser	Thr	Gl ₃
Ser	Ser	Ser	Gly	Asn 320	His	Gly	Gly	Ser	Gly 325	Gly	Gly	Asn	Gly	Hi:

Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn 360

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly Gly 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser 405

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg 435

Ser Ser Arg Ile Pro 440

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<213> Homo sapiens

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<213> Homo sapiens

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His	Gly	Arg	Leu	Ser 605	Pro	Pro	Glu	Ala	Pro 610	Asp	Arg	Pro	Thr	Ile 615
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Pro	Pro	Ser	Arg	Leu 665	Ser	Val	Glu	Ile	Thr 670	Gly	Leu	Glu	Lys	Gly 675
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Lys	Asp	Met	Val	Glu 770	Gly	Asp	Lys	Tyr	Trp 775	His	Ser	Ile	Ser	His 780'
Leu	Gln	Pro	Glu	Thr 785	Ser	Tyr	Asp	Ile	Lys 790	Met	Gln	Cys	Phe	Asn 795
Glu	Gly	Gly	Glu	Ser 800	Glu	Phe	Ser	Asn	Val 805	Met	Ile	Cys	Glu	Thr 810
Lys	Ala	Arg	Lys	Ser 815	Ser	Gly	Gln	Pro	Gly 820	Arg	Leu	Pro	Pro	Pro 825
Thr	Leu	Ala	Pro	Pro 830	Gln	Pro	Pro	Leu	Pro 835	Glu	Thr	Ile	Glu	Arg 840
Pro	Val	Gly	Thr	Gly 845	Ala	Met	Val	Ala	Arg 850	Ser	Ser	Asp	Leu	Pro 855

Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile 865 Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu Leu Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro 1040 1050 Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu 1060 Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp 1070 1080 Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly 1090 Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr 1110 1100 1105 Pro Pro Leu Thr Ile 1115

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<211> 25

<212> DNA

<213> Artificial

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    <213> Artificial
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    <222> 1-24
    <223> Synthetic construct.
    <400> 60
     gcacacgtag cctgtcgctg gagc 24
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    <212> DNA
    <213> Artificial
    <220>
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1,45
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h at
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    <212> DNA
    <213> Homo sapiens
175
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     cacgggccgc gagggttccc gcgcgctcag ccggcggtat ctgcggcgtc 150
     tgctgctcct gctactgctg ctgctgctgc ggcagcccgt aacccgcgcg 200
     gagaccacgc cgggcgcccc cagagccctc tccacgctgg gctcccccag 250
     cctcttcacc acgccgggtg tccccagcgc cctcactacc ccaggcctca 300
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ctacgccagg cacccccaaa accctggacc ttcggggtcg cgcgcaggcc 350

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gcccagttct ggtcagcctc cgtctcatgc cagtcccagg accagactgc 550
cgtgcgcctc gccctggagc agattgacct cattcaccgc atgtgtgcct 600
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ttccaggect tgtggetget gecaccatee caacetteae ecagtggete 1550
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<210> 63

<211> 487

<212> PRT

<213> Homo sapiens

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<221> unsure
<222> 196, 386
<223> unknown amino acid
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Gln Pro Val Thr Arg Ala Glu Thr Thr Pro Gly Ala Pro Arg Ala
Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe Thr Thr Pro Gly Val
Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro
Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser
Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg
                                   100
Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe
Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val
Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp
Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His
Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala
Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val
               185
Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser
Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys
               215
Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met
               230
Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val
               245
                                                      255
Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp Leu Ser Tyr Ala
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<400> 64

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Val	Ile	Phe	Ser	His 290	Ser	Ala	Ala	Arg	Ala 295	Val	Cys	Asp	Asn	Leu 300
Leu	Asn	Val	Pro	Asp 305	Asp	Ile	Leu	Gln	Leu 310	Leu	Lys	Asn	Gly	Gly 315
Ile	Val	Met	Val	Thr 320	Leu	Ser	Met	Gly	Val 325	Leu	Gln	Cys	Asn	Leu 330
Leu	Ala	Asn	Val	Ser 335	Thr	Val	Ala	Asp	His 340	Phe	Asp	His	Ile	Arg 345
Ala	Val	Ile	Gly	Ser 350	Glu	Phe	Ile	Gly	Ile 355	Gly	Gly	Asn	Tyr	Asp 360
Gly	Thr	Gly	Arg	Phe 365	Pro	Gln	Gly	Leu	Glu 370	Asp	Val	Ser	Thr	Tyr 375
Pro	Val	Leu	Ile	Glu 380	Glu	Leu	Leu	Ser	Arg 385	Xaa	Trp	Ser	Glu	Glu 390
Glu	Leu	Gln	Gly	Val 395	Leu	Arg	Gly	Asn	Leu 400	Leu	Arg	Val	Phe	Arg 405
Gln	Val	Glu	Lys	Val 410	Arg	Glu	Glu	Ser	Arg 415	Ala	Gln	Ser	Pro	Val 420
Glu	Ala	Glu	Phe	Pro 425	Tyr	Gly	Gln	Leu	Ser 430	Thr	Ser	Cys	His	Ser 435
His	Leu	Val	Pro	Gln 440	Asn	Gly	His	Gln	Ala 445	Thr	His	Leu	Glu	Val 450
Thr	Lys	Gln	Pro	Thr 455	Asn	Arg	Val	Pro	Trp 460	Arg	Ser	Ser	Asn	Ala 465
Ser	Pro	Tyr	Leu	Val 470	Pro	Gly	Leu	Val	Ala 475	Ala	Ala	Thr	Ile	Pro 480
Thr	Phe	Thr	Gln	Trp 485	Leu	Cys								
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<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial sequence
<222> 1-25
<223> Synthetic construct.
<400> 65
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<210> 66
<211> 47
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<213> Artificial
<220>
<221> Artificial sequence
<222> 1-47
<223> Synthetic construct.
<400> 66
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<210> 67
<211> 1564
<212> DNA
<213> Homo sapiens
<400> 67
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 aacacccaca gatccctcta tgactgcaat gtgaggtgtc cggctttgct 100
 ggcccagcaa gcctgataag catgaagctc ttatctttgg tggctgtggt 150
 cgggtgtttg ctggtgcccc cagctgaagc caacaagagt tctgaagata 200
 tccggtgcaa atgcatctgt ccaccttata gaaacatcag tgggcacatt 250
 tacaaccaga atgtatccca gaaggactgc aactgcctgc acgtggtgga 300
 gcccatgcca gtgcctggcc atgacgtgga ggcctactgc ctgctgtgcg 350
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 tccctcgggg gaccccgagc aaacacagtc ctggagcgtg tggaaggtgc 600
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ccagcagcgg tggaagctgc aggtqcagga gcagcggaag acagtcttcg 650 atcggcacaa gatgctcagc tagatgggct ggtgtggttg ggtcaaggcc 700 ccaacaccat ggctgccagc ttccaggctg gacaaagcag ggggctactt 750 ctcccttccc tcggttccag tcttcccttt aaaagcctgt ggcatttttc 800 ctccttctcc ctaactttag aaatgttgta cttggctatt ttgattaggg 850 aagagggatg tggtctctga tctctgttgt cttcttgggt ctttggggtt 900 gaagggaggg ggaaggcagg ccagaaggga atggagacat tcgaggcggc 950 ctcaggagtg gatgcgatct gtctctcctg gctccactct tgccgccttc 1000 cagctctgag tcttgggaat gttgttaccc ttggaaqata aagctgggtc 1050 ttcaggaact cagtgtctgg gaggaaagca tggcccagca ttcagcatgt 1100 gttcctttct gcagtggttc ttatcaccac ctcctccca gccccgqcqc 1150 ctcagcccca gccccagctc cagccctgag gacagctctg atgggagagc 1200 tgggcccct gagcccactg ggtcttcagg gtgcactgga agctggtgtt 1250 cgctgtcccc tgtgcacttc tcgcactggg gcatggagtg cccatgcata 1300 ctctgctgcc ggtcccctca cctgcacttg aggggtctgg gcagtccctc 1350 ctctccccag tgtccacagt cactgagcca gacggtcggt tggaacatga 1400 gactcgaggc tgagcgtqqa tctqaacacc acagcccctq tacttqqqtt 1450 gcctcttgtc cctgaacttc gttqtaccaq tqcatqqaqa qaaaattttq 1500 tcctcttgtc ttagagttgt gtgtaaatca aggaagccat cattaaattg 1550 ttttatttct ctca 1564

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<210> 68
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<400> 68

Pro Pro Ala Glu Ala Asn Lys Ser Ser Glu Asp Ile Arg Cys Lys 20 25 30

Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn 35 40 45

Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu $50 \,$ 55 $\,$ 60

<211> 183

<212> PRT

<213> Homo sapiens

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Met Leu Ser

<210> 69 <211> 3170 <212> DNA <213> Homo sapiens

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cagagatcga aaccacggtc attactcaaa ccatgacttg ggatggcaga 700 atctaggaag accacacat aagatgtcac atataaaagg gcatgaagga 750 gacccctgcc tacgatcatc agactgcatt gaagggtttt gctgtgctcg 800 tcatttctgg accaaaatct gcaaaccagt gctccatcag ggggaagtct 850 gtaccaaaca acgcaagaag ggttctcatg ggctggaaat tttccagcgt 900 tgcgactgtg cgaagggcct gtcttgcaaa gtatggaaag atgccaccta 950 ctcctccaaa gccagactcc atgtgtgtca gaaaatttga tcaccattga 1000 ggaacatcat caattgcaga ctgtgaagtt gtgtatttaa tgcattatag 1050 catggtggaa aataaggttc agatgcagaa gaatggctaa aataagaaac 1100 gtgataagaa tatagatgat cacaaaaagg gagaaagaaa acatgaactg 1150 aatagattag aatgggtgac aaatgcagtg cagccagtgt ttccattatg 1200 caacttgtct atgtaaataa tgtacacatt tgtggaaaat gctattatta 1250 agagaacaag cacacagtgg aaattactga tgagtagcat gtgactttcc 1300 aagagtttag gttgtgctgg aggagaggtt teetteagat tgctgattge 1350 ttatacaaat aacctacatg ccagatttct attcaacgtt agagtttaac 1400 aaaatactcc tagaataact tgttatacaa taggttctaa aaataaaatt 1450 gctaaacaag aaatgaaaac atggagcatt gttaatttac aacagaaaat 1500 taccttttga tttgtaacac tacttctgct gttcaatcaa gagtcttggt 1550 agataagaaa aaaatcagtc aatatttcca aataattgca aaataatggc 1600 cagttgttta ggaaggcctt taggaagaca aataaataac aaacaaacag 1650 ccacaaatac tttttttca aaattttagt tttacctgta attaataaga 1700 actgatacaa gacaaaaaca gttccttcag attctacgga atgacagtat 1750 atctctcttt atcctatgtg attcctgctc tgaatgcatt atattttcca 1800 aactataccc ataaattgtg actagtaaaa tacttacaca gagcagaatt 1850 ttcacagatg gcaaaaaaat ttaaagatgt ccaatatatg tgggaaaaga 1900 gctaacagag agatcattat ttcttaaaga ttggccataa cctatatttt 1950 gatagaatta gattggtaaa tacatgtatt catacatact ctgtggtaat 2000 agagacttaa gctggatctg tactgcactg gagtaagcaa gaaaattggg 2050 aaaacttttt cgtttgttca ggttttggca acacatagat catatgtctg 2100

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<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

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Leu Leu Ala Ala Val Leu Met Val Glu Ser Ser Gln Ile Gly Ser 20 25 30

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Gly Glu
35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly 170 Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val 250

Cys Gln Lys Ile

<210> 71 <211> 1809

<212> DNA

<213> Homo sapiens

<400> 71

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acatcacgtt tttaaaaatt gatttcttca aattcatggc aaatatttcc 150
cttcccttta acttcttatg tcagaatgag gaaggatagc tgcatttatt 200

tagtcagttt tcattgcata gtaatatttt catgtagtat tttctaagtt 250 atattttagt aattcatatg ttttagatta taggttttaa catacttgtg 300 aaaatacttg atgtgtttta aagccttggg cagaaattct gtattgttga 350 ggatttgttc ttttatcccc cttttaaagt catccgtcct tggctcagga 400 tttggagage ttgcaccacc aaaaatggca aacatcacca gctcccagat 450 tttggaccag ttgaaagctc cgagtttggg ccagtttacc accaccccaa 500 gtacacagca gaatagtaca agtcacccta caactactac ttcttgggac 550 ctcaagcccc caacatccca gtcctcagtc ctcagtcatc ttgacttcaa 600 atctcaacct gagccatccc cagttcttag ccagttgagc cagcgacaac 650 agcaccagag ccaggcagtc actgttcctc ctcctggttt ggagtccttt 700 ccttcccagg caaaacttcg agaatcaaca cctggagaca gtccctccac 750 tgtgaacaag cttttgcagc ttcccagcac gaccattgaa aatatctctg 800 tgtctgtcca ccagccacag cccaaacaca tcaaacttgc taagcggcgg 850 atacccccag cttctaagat cccagcttct gcagtggaaa tgcctggttc 900 agcagatgtc acaggattaa atgtgcagtt tggggctctg gaatttgggt 950 cagaacette tetetetgaa tttggateag etecaageag tgaaaatagt 1000 aatcagattc ccatcagctt gtattcgaag tctttaagtg agcctttgaa 1050 tacatcttta tcaatgacca gtgcagtaca gaactccaca tatacaactt 1100 ccgtcattac ctcctgcagt ctgacaagct catcactgaa ttctgctagt 1150 ccagtagcaa tgtcttcctc ttatgaccag agttctgtgc ataacaggat 1200 cccataccaa agccctgtga gttcatcaga gtcagctcca ggaaccatca 1250 tgaatggaca tggtggtggt cgaagtcagc agacactaga cagtaagtat 1300 agcagcaagc tactcttgtc atggctggtg ccaaccaaac agaggaagag 1350 gatageteae gtgatgtgga aaacaccagt tggtcaatgg ctcattcgtt 1400 aaaaagcagc ccttttgctt ttttgttttt ggaccaggtg ttggctgtgg 1450 tgttattaga aatgtcttaa ccacagcaag aaggaggtgg tggtctcata 1500 ttcttctgcc ctaatcagac tgcaccacaa gtgcagcata cagtatgcat 1550 tttaaagatg cttgggccag gcggggtggc tgatgcccat aatcccagtg 1600 ctttgggggg ccaaggcagg cagattgccc aagctcagga gtttgagacc 1650

accetgggca acatggtgaa actetgtete tactaaaata egaaaaacta 1700 geegggtgtg gtggeggege gtgcetgtaa teecagetae ttgggagget 1750 gaggeacaag aategettga geeagettgg getacaaagt gagaeteegt 1800 etgaaaaga 1809

<210> 72

<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly 20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser 35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr 50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr 65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val 80 85 90

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val 95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val $110 \,$ $115 \,$ $120 \,$

Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys 125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys 140 145 150

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser 155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg 170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro
185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu 200 205 210

Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro 215 220 225

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                 230
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                 245
 Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser
 Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser
 Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln
 Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn
 Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr
                 320
                                     325
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 Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp
                                     355
Leu Ile Arg
<210> 73
<211> 26
<212> DNA
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<211> 341

<212> PRT

<213> Homo sapiens

<400> 77

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Ala Gly Leu Tyr Thr Cys Asn Leu His His His Tyr Cys His Leu 35 40 45

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro 50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val
65 70 75

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Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His
Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg
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Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro
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Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu
Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp
Glu Gly Thr Tyr Ser Cys His Leu His His His Tyr Cys Gly Leu
His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala
Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser
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Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val
Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln
Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu Leu
Val Thr Val Leu Leu Ala Ala Arg Arg Arg Gly Gly Tyr Glu
Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn
Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg
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Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu
                                    310
Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp
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<211> 2243

<212> DNA

<213> Homo sapiens

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<211> 475 <212> PRT

<213> Homo sapiens

<400> 79

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Leu Leu Glu Lys Leu Leu Asp Arg Pro Pro Pro Gly Leu Gln Arg
35 40 45

Pro Glu Asp Arg Phe Cys Gly Thr Tyr Ile Ile Phe Phe Ser Leu 50 55 60

Gly Ile Gly Ser Leu Leu Pro Trp Asn Phe Phe Ile Thr Ala Lys
65 70 75

Glu Tyr Trp Met Phe Lys Leu Arg Asn Ser Ser Ser Pro Ala Thr 80 85 90

Gly Glu Asp Pro Glu Gly Ser Asp Ile Leu Asn Tyr Phe Glu Ser 95 100 105

Tyr	Leu	Ala	Val	Ala 110	Ser	Thr	Val	Pro	Ser 115	Met	Leu	Cys	Leu	Val 120
Ala	Asn	Phe	Leu	Leu 125	Val	Asn	Arg	Val	Ala 130	Val	His	Ile	Arg	Val 135
Leu	Ala	Ser	Leu	Thr 140	Val	Ile	Leu	Ala	Ile 145	Phe	Met	Val	Ile	Thr 150
Ala	Leu	Val	Lys	Val 155	Asp	Thr	Ser	Ser	Trp 160	Thr	Arg	Gly	Phe	Phe 165
Ala	Val	Thr	Ile	Val 170	Cys	Met	Val	Ile	Leu 175	Ser	Gly	Ala	Ser	Thr 180
Val	Phe	Ser	Ser	Ser 185	Ile	Tyr	Gly	Met	Thr 190	Gly	Ser	Phe	Pro	Met 195
Arg	Asn	Ser	Gln	Ala 200	Leu	Ile	Ser	Gly	Gly 205	Ala	Met	Gly	Gly	Thr 210
Val	Ser	Ala	Val	Ala 215	Ser	Leu	Val	Asp	Leu 220	Ala	Ala	Ser	Ser	Asp 225
Val	Arg	Asn	Ser	Ala 230	Leu	Ala	Phe	Phe	Leu 235	Thr	Ala	Thr	Ile	Phe 240
Leu	Val	Leu	Cys	Met 245	Gly	Leu	Tyr	Leu	Leu 250	Leu	Ser	Arg	Leu	Glu 255
Tyr	Ala	Arg	Tyr	Tyr 260	Met	Arg	Pro	Val	Leu 265	Ala	Ala	His	Val	Phe 270
Ser	Gly	Glu	Glu	Glu 275	Leu	Pro	Gln	Asp	Ser 280	Leu	Ser	Ala	Pro	Ser 285
Val	Ala	Ser	Arg	Phe 290	Ile	Asp	Ser	His	Thr 295	Pro	Pro	Leu	Arg	Pro 300
Ile	Leu	Lys	Lys	Thr 305	Ala	Ser	Leu	Gly	Phe 310	Cys	Val	Thr	Tyr	Val 315
Phe	Phe	Ile	Thr	Ser 320	Leu	Ile	Tyr	Pro	Ala 325	Val	Cys	Thr	Asn	Ile 330
Glu	Ser	Leu	Asn	Lys 335	Gly	Ser	Gly	Ser	Leu 340	Trp	Thr	Thr	Lys	Phe 345
Phe	Ile	Pro	Leu	Thr 350	Thr	Phe	Leu	Leu	Tyr 355	Asn	Phe	Ala	Asp	Leu 360
Cys	Gly	Arg	Gln	Leu 365	Thr	Ala	Trp	Ile	Gln 370	Val	Pro	Gly	Pro	Asn 375
Ser	Lys	Ala	Leu	Pro 380	Gly	Phe	Val	Leu	Leu 385	Arg	Thr	Cys	Leu	Ile 390
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11

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<400> 84

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Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala 80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn 95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser 110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu 125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His
140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys
155 160 165

Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln 290 Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu

465 460 455 Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp 535 530 Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His

565

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<213> Homo sapiens

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<211> 739

<212> PRT

<213> Homo sapiens

<400> 86

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Ala Val Pro	Arg Leu 410	Leu A	Asn i	Arg	Ile	Tyr 415	Asp	Lys	Val	Gln	Asn 420
Glu Ala Lys	Thr Pro 425	Leu I	Lys :	Lys	Phe	Leu 430	Leu	Lys	Leu	Ala	Val 435
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Thr Leu Pro	Gly Asp 515	Trp 1	Thr	Ser	Gly	His 520	Val	Gly	Val	Pro	Leu 525
Ala Cys Asn	Tyr Val 530	Lys 1	Leu	Glu	Asp	Val 535	Ala	Asp	Met	Asn	Tyr 540
Phe Thr Val	Asn Asn 545	Glu (Gly	Glu	Val	Cys 550	Ile	Lys	Gly	Thr	Asn 555
Val Phe Lys	Gly Tyr 560	Leu l	Lys	Asp	Pro	Glu 565	Lys	Thr	Gln	Glu	Ala 570
Leu Asp Ser	Asp Gly 575	Trp 1	Leu	His	Thr	Gly 580	Asp	Ile	Gly	Arg	Trp 585
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Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp 50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu 65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg 80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser 95 100 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu 110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val 125 130 135

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Thr	Tyr	Ser	Pro	His 155	Glu	Asp	Glu	Ala	Met 160	Val	Leu	Phe	Leu	Asn 165
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Pro	Ile	Glu	Phe	Ser 290	Pro	Asp	Pro	Leu	Pro 295	Asp	Asn	Lys	Val	Leu 300
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Val	Leu	Glu	Glu	Asp 395	Leu	Asp	Ile	Ala	Val 400	Asp	Phe	Phe	Ser	Phe 405
Leu	Ser	Gln	Ser	Ile 410	His	Leu	Leu	Glu	Glu 415	Asp	Asp	Ser	Leu	Tyr 420
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Pro	Gly	Val	Gln	Leu 530	Arg	Asn	Val	Asp	Ser 535	Leu	Lys	Lys	Glu	Ala 540
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Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His 50 55 60

Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser 65 70 75

Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser 80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His 95 100 105

Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu 110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp 125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Leu 140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala 155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val 170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser 185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His 200 205 210

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Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg 35 40 45

Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg
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Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu 65 70 75

Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe 80 85 90

Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val 95 100 105

Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu 110 115 120

Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln 125 130 135

Gln Asp Val Leu Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg 140 145 150

Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu 155 160 165

Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys 170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp 185 190 195

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Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser 230 235 240

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        Arg
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<210> 101

<211> 3671

<212> DNA

<213> Homo sapiens

<400> 101

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catgeeegge tetacegate teaggttgae eeteetaeea eeaceatgea 400
gegeeteaag geeeteacea etggeteact geetaeett attgatgetg 450
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<211> 1089

<212> PRT

<213> Homo sapiens

<400> 102

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Thr Arg Leu Glu Leu Thr Asn His Ser Ser Cys Gln Glu Pro Pro 35 40 45

Gly Pro Gly Ser Leu Pro Trp Gly Ser Gln Gly Lys Pro Gly Ala 50 55 60

Cys Trp Met Ala Ser Arg Phe Ser Arg Val Val Leu Val Leu Ile 65 70 75

Asp Ala Leu Arg Phe Asp Phe Ala Gln Pro Gln His Ser His Val 80 85 90

Pro Arg Glu Pro Pro Val Ser Leu Pro Phe Leu Gly Lys Leu Ser 95 100 105

Ser Leu Gln Arg Ile Leu Glu Ile Gln Pro His His Ala Arg Leu 110 115 120

Tyr Arg Ser Gln Val Asp Pro Pro Thr Thr Thr Met Gln Arg Leu 125 130 135

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly
140 145

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys 155 160 165

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp 170 175 180

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe 185 190 195

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly

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Val	Leu	Ile	Ala	His 230	Phe	Leu	Gly	Val	Asp 235	His	Cys	Gly	His	Lys 240
His	Gly	Pro	His	His 245	Pro	Glu	Met	Ala	Lys 250	Lys	Leu	Ser	Gln	Met 255
Asp	Gln	Val	Ile	Gln 260	Gly	Leu	Val	Glu	Arg 265	Leu	Glu	Asn	Asp	Thr 270
Leu	Leu	Val	Val	Ala 275	Gly	Asp	His	Gly	Met 280	Thr	Thr	Asn	Gly	Asp 285
His	Gly	Gly	Asp	Ser 290	Glu	Leu	Glu	Val	Ser 295	Ala	Ala	Leu	Phe	Leu 300
Tyr	Ser	Pro	Thr	Ala 305	Val	Phe	Pro	Ser	Thr 310	Pro	Pro	Glu	Glu	Pro 315
Glu	Val	Ile	Pro	Gln 320	Val	Ser	Leu	Val	Pro 325	Thr	Leu	Ala	Leu	Leu 330
Leu	Gly	Leu	Pro	Ile 335	Pro	Phe	Gly	Asn	Ile 340	Gly	Glu	Val	Met	Ala 345
Glu	Leu	Phe	Ser	Gly 350	Gly	Glu	Asp	Ser	Gln 355	Pro	His	Ser	Ser	Ala 360
Leu	Ala	Gln	Ala	Ser 365	Ala	Leu	His	Leu	Asn 370	Ala	Gln	Gln	Val	Ser 375
Arg	Phe	Leu	His	Thr 380	Tyr	Ser	Ala	Ala	Thr 385	Gln	Asp	Leu	Gln	Ala 390
Lys	Glu	Leu	His	Gln 395	Leu	Gln	Asn	Leu	Phe 400	Ser	Lys	Ala	Ser	Ala 405
Asp	Tyr	Gln	Trp	Leu 410	Leu	Gln	Ser	Pro	Lys 415	Gly	Ala	Glu	Ala	Thr 420
Leu	Pro	Thr	Val	Ile 425	Ala	Glu	Leu	Gln	Gln 430	Phe	Leu	Arg	Gly	Ala 435
Arg	Ala	Met	Суз	Ile 440	Glu	Ser	Trp	Ala	Arg 445	Phe	Ser	Leu	Val	Arg 450
Met	Ala	Gly	Gly	Thr 455	Ala	Leu	Leu	Ala	Ala 460	Ser	Cys	Phe	Ile	Cys 465
Leu	Leu	Ala	Ser	Gln 470	Trp	Ala	Ile	Ser	Pro 475	Gly	Phe	Pro	Phe	Cys 480
Pro	Leu	Leu	Leu	Thr 485	Pro	Val	Ala	Trp	Gly 490	Leu	Val	Gly	Ala	Ile 495

Ala Tyr Ala Gly Leu Leu Gly Thr Ile Glu Leu Lys Leu Asp Leu 500 505 Val Leu Leu Gly Ala Val Ala Ala Val Ser Ser Phe Leu Pro Phe Leu Trp Lys Ala Trp Ala Gly Trp Gly Ser Lys Arg Pro Leu Ala 530 Thr Leu Phe Pro Ile Pro Gly Pro Val Leu Leu Leu Leu Phe 545 550 Arg Leu Ala Val Phe Phe Ser Asp Ser Phe Val Val Ala Glu Ala Arg Ala Thr Pro Phe Leu Leu Gly Ser Phe Ile Leu Leu Val Val Gln Leu His Trp Glu Gly Gln Leu Leu Pro Pro Lys Leu Leu Thr Met Pro Arg Leu Gly Thr Ser Ala Thr Thr Asn Pro Pro Arg His Asn Gly Ala Tyr Ala Leu Arg Leu Gly Ile Gly Leu Leu Leu 620 Cys Thr Arg Leu Ala Gly Leu Phe His Arg Cys Pro Glu Glu Thr Pro Val Cys His Ser Ser Pro Trp Leu Ser Pro Leu Ala Ser Met Val Gly Gly Arg Ala Lys Asn Leu Trp Tyr Gly Ala Cys Val Ala Ala Leu Val Ala Leu Leu Ala Ala Val Arg Leu Trp Leu Arg Arg Tyr Gly Asn Leu Lys Ser Pro Glu Pro Pro Met Leu Phe Val Arg Trp Gly Leu Pro Leu Met Ala Leu Gly Thr Ala Ala Tyr Trp Ala Leu Ala Ser Gly Ala Asp Glu Ala Pro Pro Arg Leu Arg Val Leu Val Ser Gly Ala Ser Met Val Leu Pro Arg Ala Val Ala Gly Leu Ala Ala Ser Gly Leu Ala Leu Leu Leu Trp Lys Pro Val Thr Val Leu Val Lys Ala Gly Ala Gly Ala Pro Arg Thr Arg Thr Val Leu Thr Pro Phe Ser Gly Pro Pro Thr Ser Gln Ala Asp Leu Asp Tyr

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Arg	Leu	Glu	Arg	Thr 815	Lys	Ser	Gln	Gly	Pro 820	Leu	Thr	Val	Ala	Ala 825
Tyr	Gln	Leu	Gly	Ser 830	Val	Tyr	Ser	Ala	Ala 835	Met	Val	Thr	Ala	Leu 840
Thr	Leu	Leu	Ala	Phe 845	Pro	Leu	Leu	Leu	Leu 850	His	Ala	Glu	Arg	Ile 855
Ser	Leu	Val	Phe	Leu 860	Leu	Leu	Phe	Leu	Gln 865	Ser	Phe	Leu	Leu	Leu 870
His	Leu	Leu	Ala	Ala 875	Gly	Ile	Pro	Val	Thr 880	Thr	Pro	Gly	Pro	Phe 885
Thr	Val	Pro	Trp	Gln 890	Ala	Val	Ser	Ala	Trp 895	Ala	Leu	Met	Ala	Thr 900
Gln	Thr	Phe	Tyr	Ser 905	Thr	Gly	His	Gln	Pro 910	Val	Phe	Pro	Ala	Ile 915
His	Trp	His	Ala	Ala 920	Phe	Val	Gly	Phe	Pro 925	Glu	Gly	His	Gly	Ser 930
Cys	Thr	Trp	Leu	Pro 935	Ala	Leu	Leu	Val	Gly 940	Ala	Asn	Thr	Phe	Ala 945
Ser	His	Leu	Leu	Phe 950	Ala	Val	Gly	Cys	Pro 955	Leu	Leu	Leu	Leu	Trp 960
Pro	Phe	Leu	Cys	Glu 965	Ser	Gln	Gly	Leu	Arg 970	Lys	Arg	Gln	Gln	Pro 975
Pro	Gly	Asn	Glu	Ala 980	Asp	Ala	Arg	Val	Arg 985	Pro	Glu	Glu	Glu	Glu 990
Glu	Pro	Leu	Met	Glu 995	Met	Arg	Leu		Asp 1000	Ala	Pro	Gln	His	Phe L005
Tyr	Ala	Ala		Leu 1010	Gln	Leu	Gly		Lys 1015	Tyr	Leu	Phe	Ile	Leu L020
Gly	Ile	Gln		Leu 1025	Ala	Cys	Ala		Ala 1030	Ala	Ser	Ile	Leu	Arg L035
Arg	His	Leu		Val 1040	Trp	Lys	Val		Ala 1045	Pro	Lys	Phe	Ile	Phe L050
Glu	Ala	Val		Phe 1055	Ile	Val	Ser		Val 1060	Gly	Leu	Leu	Leu	Gly L065
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Arg Gln Leu Phe Leu Ala Gln Gln Arg 1085

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<212> DNA

<213> Homo sapiens

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Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu 125 130

Phe Lys Ala Lys Ile Ile Phe Trp Tyr Val Leu Pro Ile Ser Ile

Thr Val Phe Leu Phe Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr 160 165

Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile 175 Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys 200 Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val 215 Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro 230 Gln Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser Leu Thr Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys Ala Gly Pro Glu Glu Glu Leu Ser Leu Gln Glu Glu Val Ser Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu 320 Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro 350 355 Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser 385 Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Gly Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro 420 Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly 430 Leu Tyr Val Gln Met Glu Asn

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<222> 1-18
<223> Synthetic construct.
<400> 106
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<400> 108
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1,17

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<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

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Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg
35 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly 50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala 80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile 95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala 110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly
125 130 135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val 155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val 170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His
185 190 190

Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg 200 205 210

Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg 215 220 225

Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly 230 235 240

Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val 245 250 255

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 cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150
 tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200
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ggtcatcgtg acgggcgcca acacaggcat cgggaagcag accgccttgg 250 aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300 aagtgtgagg cggcagcaaa ggacatccgc ggggagaccc tcaatcacca 350 tgtcaacgcc cggcacctgg acttggcttc cctcaagtct atccgagagt 400 ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaatcaac 450 aacgegggtg tgatgeggtg ecceeactgg accaeegagg aeggettega 500 gatgcagttt ggcgttaacc acctgggtca ctttctcttg acaaacttgc 550 tgctggacaa gctgaaagcc tcagcccctt cgcggatcat caacctctcg 600 tecetggece atgttgetgg geacatagae tttgaegaet tgaactggea 650 gacgaggaag tataacacca aagccgccta ctgccagagc aagctcgcca 700 tcgtcctctt caccaaggag ctgagccggc ggctgcaagg ctctggtgtg 750 actgtcaacg ccctgcaccc cggcgtggcc aggacagagc tgggcagaca 800 cacgggcatc catggctcca ccttctccag caccacactc gggcccatct 850 tetggetget ggteaagage eeegagetgg eegeecagee eageacatae 900 ctggccgtgg cggaggaact ggcggatgtt tccggaaagt acttcgatgg 950 actcaaacag aaggccccgg cccccgaggc tgaggatgag gaggtggccc 1000 ggaggetttg ggetgaaagt geeegeetgg tgggettaga ggeteeetet 1050 gtgagggagc agcccctccc cagataacct ctggagcaga tttgaaagcc 1100 aggatggcgc ctccagaccg aggacagctg tccgccatgc ccgcagcttc 1150 ctggcactac ctgagccggg agacccagga ctggcggccg ccatgcccgc 1200 agtaggttct agggggcggt gctggccgca gtggactggc ctgcaggtga 1250 gcactgcccc gggctctggc tggttccgtc tgctctgctg ccagcagggg 1300 agaggggcca tctgatgctt cccctgggaa tctaaactgg gaatggccga 1350 ggaggaaggg gctctgtgca cttgcaggcc acgtcaggag agccagcggt 1400 gcctgtcggg gagggttcca aggtgctccg tgaagagcat gggcaagttg 1450 totgacactt ggtggattct tgggtccctg tgggaccttg tgcatgcatg 1500 gtcctctctg agccttggtt tcttcagcag tgagatgctc agaataactg 1550 ctgtctccca tgatggtgtg gtacagcgag ctgttgtctg gctatggcat 1600 ggctgtgccg ggggtgtttg ctgagggctt cctgtgccag agcccagcca 1650

gagagcaggt gcaggtgtca tcccgagttc aggctctgca cggcatggag 1700 tgggaacccc accagctgct gctacaggac ctgggattgc ctgggactcc 1750 caccttccta tcaattctca tggtagtcca aactgcagac tctcaaactt 1800 gctcattt 1808

<210> 116

<211> 331

<212> PRT

<213> Homo sapiens

<400> 116

Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala 1 5 10 15

Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys 20 25 30

Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly 35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg
50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys
65 70 75

Glu Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His 80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg 95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile 110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr 125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His
140 145 150

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala 155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly 170 175 180

His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn 185 190 195

Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe 200 205 210

Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val 215 220 225

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Asn Ala Leu His Pro 230 Sly Val Ala Arg Thr 235 Slu Leu Gly Arg His 240

Thr Gly Ile His Gly 245 Ser Thr Phe Ser 250 Thr Thr Leu Gly Pro 255

Ile Phe Trp Leu Leu 260 Val Lys Ser Pro 265 Leu Ala Ala Glu Pro 270

Ser Thr Tyr Leu Ala 275 Val Ala Glu Glu Leu 280 Ala Asp Val Ser Gly 285

Lys Tyr Phe Asp 290 Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala 300

Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Glu Ser Ala Arg 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Glu Gln Pro Leu Pro 330
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Arg

<210> 117 <211> 2249 <212> DNA <213> Homo sapiens

<400> 117
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gggcgacacg ttctcggcgc tgaccagcgt ggcgcgcgc ctggcgcccg 150
agcgccggct gctggggctg ctgaggcggt acctgcgcgg ggaggaggcg 200
cggctgcggg acctgactag attctacgac aaggtacttt ctttgcatga 250
ggattcaaca acccctgtgg ctaaccctct gcttgcattt acctctatca 300
aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350
gagaacatcc gagctctgaa ggatggctat gagaaggtgg agcaagacct 400
tccagccttt gaggaccttg aggagcagc aagggccctg atgcggctgc 450
aggacgtgta catgctcaat gtgaaaggcc tggcccgagg tgtctttcag 500
agagtcactg gctctgccat cactgacctg tacagcccca aacggctctt 550
ttctctcaca ggggatgact gcttccaagt tggcaaggtg gcctatgaca 600
tgggggatta ttaccatgcc attccatgcc tggaggaggc tgtcagtct 650
ttccgaggat cttacggaga gtggaagaca gaggatgagg caagtctaga 700

agatgccttg gatcacttgg cctttgctta tttccgggca ggaaatgttt 750 cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800 aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850 ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900 acctgcagac cagagacacc tacgaggggc tatgtcagac cctgggttcc 950 cagoccacto totaccagat coctagooto tactgttoot atgagaccaa 1000 ttccaacgcc tacctgctgc tccagcccat ccggaaggag gtcatccacc 1050 tggagcccta cattgctctc taccatgact tcgtcagtga ctcagaggct 1100 cagaaaatta gagaacttgc agaaccatgg ctacagaggt cagtggtggc 1150 atcaggggag aagcagttac aagtggagta ccgcatcagc aaaagtgcct 1200 ggctgaagga cactgttgac ccaaaactgg tgaccctcaa ccaccgcatt 1250 gctgccctca caggccttga tgtccggcct ccctatgcag agtatctgca 1300 ggtggtgaac tatggcatcg gaggacacta tgagcctcac tttgaccatg 1350 ctacgtcacc aagcagcccc ctctacagaa tgaagtcagg aaaccgagtt 1400 gcaacattta tgatctatct gagctcggtg gaagctggag gagccacagc 1450 cttcatctat gccaacctca gcgtgcctgt ggttaggaat gcagcactgt 1500 tttggtggaa cctgcacagg agtggtgaag gggacagtga cacacttcat 1550 gctggctgtc ctgtcctggt gggagataag tgggtggcca acaagtggat 1600 acatgagtat ggacaggaat teegeagace etgeagetee ageeetgaag 1650 actgaactgt tggcagagag aagctggtgg agtcctgtgg ctttccagag 1700 aagccaggag ccaaaagctg gggtaggaga ggagaaagca gagcagcctc 1750 ctggaagaag gccttgtcag ctttgtctgt gcctcgcaaa tcagaggcaa 1800 gggagaggtt gttaccaggg gacactgaga atgtacattt gatctgcccc 1850 agccacggaa gtcagagtag gatgcacagt acaaaggagg ggggagtgga 1900 ggcctgagag ggaagtttct ggagttcaga tactctctgt tgggaacagg 1950 acatctcaac agtctcaggt tcgatcagtg ggtcttttgg cactttgaac 2000 cttgaccaca gggaccaaga agtggcaatg aggacacctg caggaggggc 2050 tagcctgact cccagaactt taagactttc tccccactgc cttctgctgc 2100 agcccaagca gggagtgtcc ccctcccaga agcatatccc agatgagtgg 2150 <210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

Met Gly Pro Gly Ala Arg Leu Ala Ala Leu Leu Ala Val Leu Ala
1 5 10 15

Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr 20 25 30

Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg
35 40 45

Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala 50 55 60

Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu 65 70 75

His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe 80 85 90

Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His
95 100 105

Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr 110 115 120

Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly
125 130 135

Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn

Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser 155 160 165

Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr 170 175 180

Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly 185 190 195

Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu 200 205 210

Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser 215 220 225

Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala 230 235 240

Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu 250 Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala 280 Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala Tyr Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val 365 Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro 410 Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly 425 His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro 440 Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile 460 455 Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp 490 Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys 520 Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser

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Ser Pro Glu Asp
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<210> 119

<211> 23

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-23

<223> Synthetic construct.

<400> 119

cgggacagga gacccagaaa ggg 23

<210> 120

<211> 24

<212> DNA

<213> Artificial

<220>

1 a ±

ļ. 4 ļ

<221> Artificial Sequence

<222> 1-24

<223> Synthetic construct.

<400> 120

ggccaagtga tccaaggcat cttc 24

<210> 121

<211> 49

<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-49

<223> Synthetic construct.

<400> 121

ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcatgggg 49

<210> 122

<211> 1778

<212> DNA

<213> Homo sapiens

<400> 122

gagataggga gtctgggttt aagttcctgc tccatctcag gagcccctgc 50

tcccaccct aggaagccac cagactccac ggtgtggggc caatcaggtg 100

gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150

ggagagcccc ggagcccccg taacccgcgc ggggagcgcc caggatgccg 200

cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250 gctcaagttt tcacttatca tctattccac cgtgttctgg ctgattgggg 300 ccctggtcct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350 aaaacccttg aaagtgeett eetggeteea gecateatee teateeteet 400 gggcgtcgtc atgttcatgg tctccttcat tggtgtgctg gcgtccctcc 450 gtgacaacct gtaccttctc caagcattca tgtacatcct tgggatctgc 500 ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550 gaccattgac ttcctgaacg acaacattcg aagaggaatt gagaactact 600 atgatgatct ggacttcaaa aacatcatgg actttgttca gaaaaagttc 650 aagtgctgtg gcggggagga ctaccgagat tggagcaaga atcagtacca 700 cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750 gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800 atcgacaagg agcgtttcag tgtgcaggat gtcatctacg tgcggggctg 850 caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900 gcatcctcct gggcatcctg cttccccagt tcctgggggt gctgctgacg 950 ctgctgtaca tcacccgggt ggaggacatc atcatggagc actctgtcac 1000 tgatgggctc ctggggcccg gtgccaagcc cagcgtggag gcggcaggca 1050 cgggatgctg cttgtgctac cccaattagg gcccagcctg ccatggcagc 1100 tccaacaagg accgtctggg atagcacctc tcagtcaaca tcgtggggct 1150 ggacagggct gcggcccctc tgcccacact cagtactgac caaagccagg 1200 gctgtgtgtg cctgtgtgta ggtcccacgg cctctgcctc cccagggagc 1250 agagcctggg cctcccctaa gaggctttcc ccgaggcagc tctggaatct 1300 gtgcccacct ggggcctggg gaacaaggcc ctcctttctc caggcctggg 1350 ctacagggga gggagagect gaggetetge teagggeeca ttteatetet 1400 ggcagtgcct tggcggtggt attcaaggca gttttgtagc acctgtaatt 1450 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500 gggcaggagg gaagagctgt ccatgcagcc acgcccatgg ccaggttggc 1550 ctcttctcag cctcccaggt gccttgagcc ctcttgcaag ggcggctgct 1600 tccttgagcc tagttttttt ttacgtgatt tttgtaacat tcatttttt 1650 gtacagataa caggagtttc tgactaatca aagctggtat ttccccgcat 1700 gtcttattct tgcccttccc ccaaccagtt tgttaatcaa acaataaaaa 1750 catgttttgt tttgtttta aaaaaaaa 1778

<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

Met Pro Arg Gly Asp Ser Glu Gln Val Arg Tyr Cys Ala Arg Phe 1 5 10 15

Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val 20 25 30

Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala 35 40 45

Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu
50 55 60

Ala Pro Ala Ile Ile Leu Ile Leu Leu Gly Val Val Met Phe Met 65 70 75

Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr 80 85 90

Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met 95 100 105

Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr 110 115 120

Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr 125 130 135

Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys 140 145 150

Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys 155 160 165

Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly
170 175 180

Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn 185 190 195

Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val 200 205 210

Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile 215 220 225

Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly

<211> 1636 <212> DNA

<213> Homo sapiens

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<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala 1 5 10 15

Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile 20 25 30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys 35 40 45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser 50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser
65 70 75

Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile 80 85 90

Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp 95 100 105

Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe 110 115 120

Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr 125 130 135

Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro 140 145 150

Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu 155 160 165

Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu 170 175 180

Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu 185 190 190

Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly 200 205 210

Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu 215 220 225

Ser	Ile	Asp	Arg	Leu 230	Glu	Phe	Asp	Leu	Leu 235	Tyr	Pro	Ala	Ile	Lys 240
Gly	Asp	Thr	Ile	Gln 245	Leu	Tyr	Leu	Gly	Ala 250	Lys	Leu	Leu	Asp	Ser 255
Gln	Gly	Lys	Val	Thr 260	Lys	Trp	Phe	Asn	Asn 265	Ser	Ala	Ala	Ser	Leu 270
Thr	Met	Pro	Thr	Leu 275	Asp	Asn	Ile	Pro	Phe 280	Ser	Leu	Ile	Val	Ser 285
Gln	Asp	Val	Val	Lys 290	Ala	Ala	Val	Ala	Ala 295	Val	Leu	Ser	Pro	Glu 300
Glu	Phe	Met	Val	Leu 305	Leu	Asp	Ser	Val	Leu 310	Pro	Glu	Ser	Ala	His 315
Arg	Leu	Lys	Ser	Ser 320	Ile	Gly	Leu	Ile	Asn 325	Glu	Lys	Ala	Ala	Asp 330
Lys	Leu	Gly	Ser	Thr 335	Gln	Ile	Val	Lys	Ile 340	Leu	Thr	Gln	Asp	Thr 345
Pro	Glu	Phe	Phe	Ile 350	Asp	Gln	Gly	His	Ala 355	Lys	Val	Ala	Gln	Leu 360
Ile	Val	Leu	Glu	Val 365	Phe	Pro	Ser	Ser	Glu 370	Ala	Leu	Arg	Pro	Leu 375
Phe	Thr	Leu	Gly	Ile 380	Glu	Ala	Ser	Ser	Glu 385	Ala	Gln	Phe	Tyr	Thr 390
Lys	Gly	Asp	Gln	Leu 395	Ile	Leu	Asn	Leu	Asn 400	Asn	Ile	Ser	Ser	Asp 405
Arg	Ile	Gln	Leu	Met 410	Asn	Ser	Gly	Ile	Gly 415	Trp	Phe	Gln	Pro	Asp 420
Val	Leu	Lys	Asn	Ile 425		Thr	Glu	Ile	Ile 430	His	Ser	Ile	Leu	Leu 435
Pro	Asn	Gln	Asn	Gly 440		Leu	Arg	Ser	Gly 445	Val	Pro	Val	Ser	Leu 450
Val	Lys	Ala	. Leu	Gly 455		Glu	Ala	Ala	Glu 460	Ser	Ser	Leu	Thr	Lys 465
Asp	Ala	Leu	. Val	Leu 470		Pro	Ala	Ser	Leu 475	Trp	Lys	Pro	Ser	Ser 480

Pro Val Ser Gln

<210> 129 <211> 2213 <212> DNA <213> Homo sapiens

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<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val 1 5 10 15

Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln 20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met 35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys 50 55 60

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile
65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys 80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg 95 100 105

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Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp
                110
                                    115
Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser
                                    130
Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg
Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln
Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
                170
Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu
Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met
Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg
                230
Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn
Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His
                260
                                    265
Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu
Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys
                290
Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser
Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr
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                                                         330
Ser Phe Leu Met Ser
                335
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<210> 131

<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131

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tcagaaccgc taccggcgat gctactgctg tgggtgtcgg tggtcgcagc 150 cttggcgctg gcggtactgg cccccggagc aggggagcag aggcggagag 200 cagccaaagc gcccaatgtg gtgctggtcg tgagcgactc cttcgatgga 250 aggttaacat ttcatccagg aagtcaggta gtgaaacttc cttttatcaa 300 ctttatgaag acacgtggga cttcctttct gaatgcctac acaaactctc 350 caatttgttg cccatcacgc gcagcaatgt ggagtggcct cttcactcac 400 ttaacagaat cttggaataa ttttaagggt ctagatccaa attatacaac 450 atggatggat gtcatggaga ggcatggcta ccgaacacag aaatttggga 500 aactggacta tacttcagga catcactcca ttagtaatcg tgtggaagcg 550 tggacaagag atgttgcttt cttactcaga caagaaggca ggcccatggt 600 taatcttatc cgtaacagga ctaaagtcag agtgatggaa agggattggc 650 agaatacaga caaagcagta aactggttaa gaaaggaagc aattaattac 700 actgaaccat ttgttattta cttgggatta aatttaccac acccttaccc 750 ttcaccatct tctggagaaa attttggatc ttcaacattt cacacatctc 800 tttattggct tgaaaaagtg tctcatgatg ccatcaaaat cccaaagtgg 850 tcacctttgt cagaaatgca ccctgtagat tattactctt cttatacaaa 900 aaactgcact ggaagattta caaaaaaaga aattaagaat attagagcat 950 tttattatgc tatgtgtgct gagacagatg ccatgcttgg tgaaattatt 1000 ttggcccttc atcaattaga tcttcttcag aaaactattg tcatatactc 1050 ctcagaccat ggagagctgg ccatggaaca tcgacagttt tataaaatga 1100 gcatgtacga ggctagtgca catgttccgc ttttgatgat gggaccagga 1150 attaaagccg gcctacaagt atcaaatgtg gtttctcttg tggatattta 1200 ccctaccatg cttgatattg ctggaattcc tctgcctcag aacctgagtg 1250 gatactcttt gttgccgtta tcatcagaaa catttaagaa tgaacataaa 1300 gtcaaaaacc tgcatccacc ctggattctg agtgaattcc atggatgtaa 1350 tgtgaatgcc tccacctaca tgcttcgaac taaccactgg aaatatatag 1400 cctattcgga tggtgcatca atattgcctc aactctttga tctttcctcg 1450 gatccagatg aattaacaaa tgttgctgta aaatttccag aaattactta 1500 ttctttggat cagaagette attccattat aaactaceet aaagtttetg 1550

cttctqtcca ccaqtataat aaagagcagt ttatcaagtg gaaacaaagt 1600 ataggacaga attattcaaa cgttatagca aatcttaggt ggcaccaaga 1650 ctqqcaqaaq qaaccaaqqa aqtatqaaaa tqcaattqat cagtqgctta 1700 aaacccatat gaatccaaga gcagtttgaa caaaaagttt aaaaatagtg 1750 ttctagagat acatataaat atattacaag atcataatta tgtattttaa 1800 atgaaacagt tttaataatt accaagtttt ggccgggcac agtggctcac 1850 acctgtaatc ccaggacttt gggaggctga ggaaagcaga tcacaaggtc 1900 aagagattga gaccatcctg gccaacatgg tgaaaccctg tctctactaa 1950 aaatacaaaa attagctggg cgcggtggtg cacacctata gtctcagcta 2000 ctcaqaqqct qaqqcaqqaq qatcqcttqa acccqqqaqq caqcagttgc 2050 agtgagetga gattgegeea etgtaeteea geetggeaac agagtgagae 2100 tgtgtcgcaa aaaaataaaa ataaaataat aataattacc aatttttcat 2150 tattttgtaa gaatgtagtg tattttaaga taaaatgcca atgattataa 2200 aatcacatat tttcaaaaat ggttattatt taggcctttg tacaatttct 2250 aacaatttag tggaagtatc aaaaggattg aagcaaatac tgtaacagtt 2300 atgttccttt aaataataga gaatataaaa tattgtaata atatgtatca 2350 адалалана адалалана адалалана адалалана далалана далалана 2450 aaaaaaaaa aaaaaaaaa aaaaaa 2476

<210> 132

<211> 536

<212> PRT

<213> Homo sapiens

<400> 132

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Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Ala Ala Lys 20 25 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg
35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile 50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr 65 70 75

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu Asp Pro Asn Tyr Thr Thr Trp Met Asp Val Met Glu Arg His Gly Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr 320 325 Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile 360 350 Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn

				365					370					375
Leu	Ser	Gly	Tyr	Ser 380	Leu	Leu	Pro	Leu	Ser 385	Ser	Glu	Thr	Phe	Lys 390
Asn	Glu	His	Lys	Val 395	Lys	Asn	Leu	His	Pro 400	Pro	Trp	Ile	Leu	Ser 405
Glu	Phe	His	Gly	Cys 410	Asn	Val	Asn	Ala	Ser 415	Thr	Tyr	Met	Leu	Arg 420
Thr	Asn	His	Trp	Lys 425	Tyr	Ile	Ala	Tyr	Ser 430	Asp	Gly	Ala	Ser	Ile 435
Leu	Pro	Gln	Leu	Phe 440	Asp	Leu	Ser	Ser	Asp 445	Pro	Asp	Glu	Leu	Thr 450
Asn	Val	Ala	Val	Lys 455	Phe	Pro	Glu	Ile	Thr 460	Tyr	Ser	Leu	Asp	Gln 465
Lys	Leu	His	Ser	Ile 470	Ile	Asn	Tyr	Pro	Lys 475	Val	Ser	Ala	Ser	Val 480
His	Gln	Tyr	Asn	Lys 485	Glu	Gln	Phe	Ile	Lys 490	Trp	Lys	Gln	Ser	Ile 495
Gly	Gln	Asn	Tyr	Ser 500	Asn	Val	Ile	Ala	Asn 505	Leu	Arg	Trp	His	Gln 510
Asp	Trp	Gln	Lys	Glu 515	Pro	Arg	Lys	Tyr	Glu 520	Asn	Ala	Ile	Asp	Gln 525
Trp	Leu	Lys	Thr	His 530	Met	Asn	Pro	Arg	Ala 535	۷al				
<210> 133 <211> 1475 <212> DNA <213> Homo sapiens														

<400> 133
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gcttctactg agaggtctgc catggcctct cttggcctcc aacttgtggg 150
ctacatccta ggccttctgg ggcttttggg cacactggtt gccatgctgc 200
tccccagctg gaaaacaagt tcttatgtcg gtgccagcat tgtgacagca 250
gttggcttct ccaagggcct ctggatggaa tgtgccacac acagcacagg 300
catcacccag tgtgacatct atagcaccct tctgggcctg cccgctgaca 350
tccaggctgc ccaggccatg atggtgacat ccagtgcaat ctcctccctg 400

gcctgcatta tctctgtggt gggcatgaga tgcacagtct tctgccagga 450

atcccgagcc aaagacagag tggcggtagc aggtggagtc tttttcatcc 500 ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550 ctacgggact tctactcacc actggtgcct gacagcatga aatttgagat 600 tggagaggct ctttacttgg gcattatttc ttccctgttc tccctgatag 650 ctggaatcat cctctgcttt tcctgctcat cccagagaaa tcgctccaac 700 tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750 gcctggtcaa cctcccaaag tcaagagtga gttcaattcc tacagcctga 800 cagggtatgt gtgaagaacc aggggccaga gctggggggt ggctgggtct 850 gtgaaaaaca gtggacagca ccccgagggc cacaggtgag ggacactacc 900 actggatcgt gtcagaaggt gctgctgagg atagactgac tttggccatt 950 ggattgagca aaggcagaaa tgggggctag tgtaacagca tgcaggttga 1000 attgccaagg atgctcgcca tgccagcctt tctgttttcc tcaccttgct 1050 gctcccctgc cctaagtccc caaccctcaa cttgaaaccc cattccctta 1100 agccaggact cagaggatcc ctttgccctc tggtttacct gggactccat 1150 ccccaaaccc actaatcaca tcccactgac tgaccetctg tgatcaaaga 1200 ccctctctct ggctgaggtt ggctcttagc tcattgctgg ggatgggaag 1250 gagaagcagt ggcttttgtg ggcattgctc taacctactt ctcaagcttc 1300 cctccaaaga aactgattgg ccctggaacc tccatcccac tcttgttatg 1350 actccacagt gtccagacta atttgtgcat gaactgaaat aaaaccatcc 1400 tacggtatcc agggaacaga aagcaggatg caggatggga ggacaggaag 1450 gcagcctggg acatttaaaa aaata 1475

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<210> 134
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Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly
35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu
1 5 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp 20 25 30

60 55 50 Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala 115 Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro 135 Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr 165 155 Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr 185 Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser 225 Leu Thr Gly Tyr Val <211> 610

<210> 135

<212> DNA

<213> Homo sapiens

<400> 135

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<210> 136

<211> 119

<212> PRT

<213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu
1 5 10 15

Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu 20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr 35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu 50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe 80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser 95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Arg Phe Pro 110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

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ctgctttgag cagtgctgcc cctggacctt catggtgaag ctgataaacc 300 agaactgcga ctcagcccgg acctcggatg acaggctttg tcgcagtgtc 350 agctaatgga acatcagggg aacgatgact cctggattct ccttcctggg 400 tgggcctgga gaaagaggct ggtgttacct gagatctggg atgctgagtg 450 gctgtttggg ggccagagaa acacacactc aactgcccac ttcattctgt 500 gacctgtctg aggcccaccc tgcagctgcc ctgaggaggc ccacaggtcc 550 ccttctagaa ttctggacag catgagatg gtgtgctgat gggggcccag 600 ggactctgaa ccctcctgat gacccctatg gccaacatca acccggcacc 650 accccaaggc tggctggga acccttcacc cttctgtgag attttccatc 700 atctcaagtt ctcttctatc caggagcaaa gcacaggatc ataataaatt 750 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys 1 5 10 15

Ile Ser Arg Leu Leu Cys Ser His Gly Ala Pro Val Ala Pro Met 20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp 35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val $50 \hspace{1cm} 55 \hspace{1cm} 60$

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg
65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu $\cdot 80$ 85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu 95 100 105

Cys Arg Ser Val Ser 110

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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<210> 140

<211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly 1 5 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val 20 25 30

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro 35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser 65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg 80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln 95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn $125 \hspace{1.5cm} 130 \hspace{1.5cm} 135$

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu

				140					145					150
Ile	Arg	His	His	His 155	Ser	Glu	His	Arg	Val 160	His	Gly	Ala	Met	Glu 165
Leu	Gln	Val	Gln	Thr 170	Gly	Lys	Asp	Ala	Pro 175	Ser	Asn	Cys	Val	Val 180
Tyr	Pro	Ser	Ser	Ser 185	Gln	Asp	Ser	Glu	Asn 190	Ile	Thr	Ala	Ala	Ala 195
Leu	Ala	Thr	Gly	Ala 200	Cys	Ile	Val	Gly	Ile 205	Leu	Cys	Leu	Pro	Leu 210
Ile	Leu	Leu	Leu	Val 215	Tyr	Lys	Gln	Arg	Gln 220	Ala	Ala	Ser	Asn	Arg 225
Arg	Ala	Gln	Glu	Leu 230	Val	Arg	Met	Asp	Ser 235	Asn	Ile	Gln	Gly	Ile 240
Glu	Asn	Pro	Gly	Phe 245	Glu	Ala	Ser	Pro	Pro 250	Ala	Gln	Gly	Ile	Pro 255
Glu	Ala	Lys	Val	Arg 260	His	Pro	Leu	Ser	Tyr 265	Val	Ala	Gln	Arg	Gln 270
Pro	Ser	Glu	Ser	Gly 275	Arg	His	Leu	Leu	Ser 280	Glu	Pro	Ser	Thr	Pro 285
Leu	Ser	Pro	Pro	Gly 290	Pro	Gly	Asp	Val	Phe 295	Phe	Pro	Ser	Leu	Asp 300
Pro	Val	Pro	Asp	Ser 305	Pro	Asn	Phe	Glu	Val 310	Ile				
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ctta	cttagacete cetteetgee etectteet geeeaceget							cgct	gctt	cct	ggc :	150		

cocacgegte egegeetete cettetgetg gacetteett egteteteea 50 teteteecte ettteeege gttetette eacetttete ttetteeeae 100 ettagacete eetteetgee etcetteett geecaceget getteetgge 150 eetteteega eeeegeteta geageagace teetggggte tgtgggttga 200 tetgtggeee etgtgeetee gtgteettt egteteeett eeteeegaet 250 eegeteeegg aceageggee tgaeeetggg gaaaggatgg tteeegaggt 300 gagggteete teeteettge tgggaetege getgetetgg tteeeettgg 350 acteceaege tegageeege eeagacatgt tetgeettt eeatgggaag 400 agatacteee eeggegagag etggeaeeee taettggage eacaaggeet 450

gatgtactgc ctgcgctgta cctgctcaga gggcgcccat gtgagttgtt 500 accgcctcca ctgtccgcct gtccactgcc cccagcctgt gacggagcca 550 cagcaatgct gtcccaagtg tgtggaacct cacactccct ctggactccg 600 ggccccacca aagtcctgcc agcacaacgg gaccatgtac caacacggag 650 agatetteag tgeccatgag etgtteecet eeegeetgee caaccagtgt 700 gtcctctgca gctgcacaga gggccagatc tactgcggcc tcacaacctg 750 ccccgaacca ggctgcccag cacccctccc actgccagac tcctgctgcc 800 aagcctgcaa agatgaggca agtgagcaat cggatgaaga ggacagtgtg 850 cagtcgctcc atggggtgag acatcctcag gatccatgtt ccagtgatgc 900 tgggagaaag agaggccgg gcaccccagc ccccactggc ctcagcgccc 950 ctctgagctt catccctcgc cacttcagac ccaagggagc aggcagcaca 1000 actgtcaaga tcgtcctgaa ggagaaacat aagaaagcct gtgtgcatgg 1050 egggaagaeg tacteceaeg gggaggtgtg geaeceggee tteegtgeet 1100 teggeceett geeetgeate etatgeacet gtgaggatgg eegeeaggae 1150 tgccagcgtg tgacctgtcc caccgagtac ccctgccgtc accccgagaa 1200 agtggctggg aagtgctgca agatttgccc agaggacaaa gcagaccctg 1250 gccacagtga gatcagttct accaggtgtc ccaaggcacc gggccgggtc 1300 ctcqtccaca catcqqtatc cccaaqccca qacaacctqc gtcqctttqc 1350 cctggaacac gaggcctcgg acttggtgga gatctacctc tggaagctgg 1400 taaaagatga ggaaactgag gctcagagag gtgaagtacc tggcccaagg 1450 ccacacagec agaatettee aettgaetea gateaagaaa gteaggaage 1500 aagacttcca gaaagaggca cagcacttcc gactgctcgc tggcccccac 1550 gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600 ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650 gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700 cattaccctc aaaaaaaaaa aaaaaaaaaa aa 1732

<210> 142

<211> 451

<212> PRT

<213> Homo sapiens

<400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro 125 130 Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro 155 Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys

290 295	300										
Arg His Pro Glu Lys Val Ala Gly Lys Cys Cys Lys Ile C	ys Pro 315										
Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Ti 320 325	hr Arg 330										
Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val 335 340	al Ser 345										
Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His G. 350 355	lu Ala 360										
Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys A: 365 370	sp Glu 375										
Glu Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg P: 380 385	ro His 390										
Ser Gln Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Gl 395 400	lu Ala 405										
Arg Leu Pro Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg T:	rp Pro 420										
Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser Pro Asp Pro G 425 430	ly Ala 435										
Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln Asp Ile Th	hr Lys 450										
Thr											
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cttgcggaaa atgctgatct cagtcgcaat gctgggcgca ggggctggcg	g 150										
tgggctacgc gctcctcgtt atcgtgaccc cgggagagcg gcggaagcag	g 200										

gaaatgctaa aggagatgcc actgcaggac ccaaggagca gggaggaggc 250

ggccaggacc cagcagctat tgctggccac tctgcaggag gcagcgacca 300

cgcaggagaa cgtggcctgg aggaagaact ggatggttgg cggcgaaggc 350

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<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

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Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro
20 25 30

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln 35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu 50 55 60

Leu Ala Thr Leu Gl
n Glu Ala Ala Thr Thr Gl
n Glu As
n Val Ala 657075

Trp Arg Lys Asn Trp Met Val Gly Gly Gly Gly Gly Ala Ser Gly 80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

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atggtcggga cccetccaag gacagcagca ccaccttgtg gagtacatgg 200
aacgccgact agctgctta gaggaacgge tggcccagtg ccaggaccag 250
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actgctggag gtggcagaga aggagcggga ggcactcaga actgaggccg 350
acaccatete cgggagagtg gatcgtctgg agcgggaggt agactatctg 400

gagacccaga acccagctct gccctgtgta gagtttgatg agaaggtgac 450 tggaggccct gggaccaaag gcaagggaag aaggaatgag aagtacgata 500 tggtgacaga ctgtggctac acaatctctc aagtgagatc aatgaagatt 550 ctgaagcgat ttggtggccc agctggtcta tggaccaagg atccactggg 600 gcaaacagag aagatctacg tgttagatgg gacacagaat gacacagcct 650 ttgtcttccc aaggctgcgt gacttcaccc ttgccatggc tgcccggaaa 700 gcttcccgag tccgggtgcc cttcccctgg gtaggcacag ggcagctggt 750 atatggtggc tttctttatt ttgctcggag gcctcctgga agacctggtg 800 gaggtggtga gatggagaac actttgcagc taatcaaatt ccacctggca 850 aaccgaacag tggtggacag ctcagtattc ccagcagagg ggctgatccc 900 cccctacggc ttgacagcag acacctacat cgacctggta gctgatgagg 950 aaggtetttg ggetgtetat gecaceeggg aggatgaeag geacttgtgt 1000 ctggccaagt tagatccaca gacactggac acagagcagc agtgggacac 1050 accatgtccc agagagaatg ctgaggctgc ctttgtcatc tgtgggaccc 1100 tctatgtcgt ctataacacc cgtcctgcca gtcgggcccg catccagtgc 1150 teetttgatg ceageggeae eetgaceeet gaaegggeag eacteeetta 1200 ttttccccgc agatatggtg cccatgccag cctccgctat aacccccgag 1250 aacgccagct ctatgcctgg gatgatggct accagattgt ctataagctg 1300 gagatgagga agaaagagga ggaggtttga ggagctagcc ttgttttttg 1350 catctttctc actcccatac atttatatta tatccccact aaatttcttg 1400 ttcctcattc ttcaaatgtg ggccagttgt ggctcaaatc ctctatattt 1450 ttagccaatg gcaatcaaat tctttcagct cctttgtttc atacggaact 1500 ccagatcctg agtaatcctt ttagagcccg aagagtcaaa accctcaatg 1550 ttccctcctg ctctcctgcc ccatgtcaac aaatttcagg ctaaggatgc 1600 cccagaccca gggctctaac cttgtatgcg ggcaggccca gggagcaggc 1650 agcagtgttc ttcccctcag agtgacttgg ggagggagaa ataggaggag 1700 acgtccagct ctgtcctctc ttcctcactc ctcccttcag tgtcctgagg 1750 aacaggactt tctccacatt gttttgtatt gcaacatttt gcattaaaag 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1883

<210> 146 <211> 406

<212> PRT

<213> Homo sapiens

<400> 146

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Ser Gly Pro Leu Gln Gly Gln Gln His His Leu Val Glu Tyr Met 20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln 35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn 50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala $65 \hspace{1cm} 70 \hspace{1cm} 75$

Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu 80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro 95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys 110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys 125 130 135

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln 155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala 170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala 185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro 215 220 225

Pro Gly Arg Pro Gly Gly Gly Glu Met Glu Asn Thr Leu Gln 230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser 245 250 255

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        Phe
        Pro
        Ala
        Glu 260
        Glu 260
        Leu 1le 270
        Pro 265
        Tyr
        Gly Leu Thr 270
        Ala 270

        Asp
        Thr
        Tyr
        Ile Asp 275
        Leu Val
        Ala Asp 280
        Glu Gly Leu Trp Ala 285

        Val
        Tyr
        Ala
        Thr
        Arg 290
        Glu Asp Asp Asp Arg 295
        Leu Cys Leu Ala Lys 300

        Leu Asp Pro Gln Thr 290
        Glu Asp 290
        Thr Glu Glu Glu Glu Glu Glu Glu Trp Asp Thr 315

        Cys Pro Arg Glu Asp 305
        Ala Glu Asp Ala Ala Ala Phe 310
        Glu Trp Asp Thr 315

        Cys Pro Arg Glu Asp 320
        Ala Ala Ala Phe 325
        Val Ile Cys Gly Thr 330

        Leu Tyr Val Val Val Tyr 335
        Ala Ser Gly Thr 340
        Ser Arg Ala Arg 340

        Glu Cys Ser Phe Asp 350
        Ala Ser Gly Thr 340
        Ser Arg Ala Arg 340

        Ala Leu Pro Tyr Pha 365
        Pro Arg Arg Tyr Arg 41
        Arg Arg Tyr Arg 41
        Arg Arg Tyr Arg 41

        Tyr Gln Ile Val Tyr 385
        Leu Glu Met Arg Lug Lys Lys Glu Glu Glu 405
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Val

<210> 147 <211> 2052

<212> DNA

<213> Homo sapiens

<400> 147

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<210> 148

<211> 500

<212> PRT

<213> Homo sapiens

<400> 148

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Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys
35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe 50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe
65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp 80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr 95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser 110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly
125 130 135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile 140 145 150

Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala 155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg
170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu 185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His 200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp 215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu

	230		235		240
Gly Ile Leu C	ys Cys Gly 245	Leu Phe	Phe Gly Ile 250	Val Gly Leu	Lys 255
Ile Phe Phe S	er Lys Phe 260	Gln Trp	Lys Ile Gln 265	Ala Glu Leu	Asp 270
Trp Arg Arg L	ys His Gly 275	Gln Ala	Glu Leu Arg 280	Asp Ala Arg	Lys 285
His Ala Val G	lu Val Thr 290	Leu Asp	Pro Glu Thr 295	Ala His Pro	Lys 300
Leu Cys Val S	er Asp Leu 305	Lys Thr	Val Thr His 310	Arg Lys Ala	Pro 315
Gln Glu Val P	ro His Ser 320	Glu Lys 2	Arg Phe Thr 325	Arg Lys Ser	Val 330
Val Ala Ser G	ln Ser Phe 335	Gln Ala	Gly Lys His 340	Tyr Trp Glu	Val 345
Asp Gly Gly H	is Asn Lys 350	Arg Trp	Arg Val Gly 355	Val Cys Arg	Asp 360
Asp Val Asp A	rg Arg Lys 365	Glu Tyr	Val Thr Leu 370	Ser Pro Asp	His 375
Gly Tyr Trp V	al Leu Arg 380	Leu Asn	Gly Glu His 385	Leu Tyr Phe	Thr 390
Leu Asn Pro A	rg Phe Ile 395	Ser Val	Phe Pro Arg 400	Thr Pro Pro	Thr 405
Lys Ile Gly V	al Phe Leu 410	Asp Tyr	Glu Cys Gly 415	Thr Ile Ser	Phe 420
Phe Asn Ile A	sn Asp Gln 425	Ser Leu	Ile Tyr Thr 430	Leu Thr Cys	Arg 435
Phe Glu Gly L	eu Leu Arg 440	Pro Tyr	Ile Glu Tyr 445	Pro Ser Tyr	Asn 450
Glu Gln Asn G	ly Thr Pro 455	Ile Val	Ile Cys Pro 460	Val Thr Gln	Glu 465
Ser Glu Lys G	lu Ala Ser 470	Trp Gln	Arg Ala Ser 475	Ala Ile Pro	Glu 480
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Pro Arg Gly G	lu Met 500				

<210> 149 <211> 24

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<223> Synthetic construct.
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<222> 1-23
<223> Synthetic construct.
<400> 150
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<210> 151
<211> 45
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<213> Artificial
<220>
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<222> 1-45
<223> Synthetic construct.
<400> 151
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<210> 152
<211> 2294
<212> DNA
<213> Homo sapiens
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 aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150
 gcctcgccct gttgtgctgc gccgccgccg ccgccgccgt cgcctcagcc 200
 gcctcggcgg ggaatgtcac cggtggcggc ggggccgcgg ggcaggtgga 250
 cgcgtcgccg ggccccgggt tgcggggcga gcccagccac cccttcccta 300
 gggcgacggc teccaeggee caggeeecga ggacegggee eeegegegee 350
 acceptcacc gacccctggc tecagacttct ccaecccaet ccccggagac 400
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<210> 153

<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

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Val Thr Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro 35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala 50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala 65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro 80 $\,$ 85 $\,$ 90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr
95 100 105

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala 110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro 125 130 135

Thr Thr Leu Ser Thr Thr Gly Pro Ala Pro Thr Thr Pro Val

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro
155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro

aggttatcag gggcttcact gtgaaacctg caaagagg 38

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<400> 156

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<210> 157
<211> 689
<212> DNA
<213> Homo sapiens
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<400> 157

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ttctggcttt ggtctcggtg cccagggccc aggccgtgtg gttgggaaga 100
ctggaccctg agcagcttct tgggccctgg tacgtgcttg cggtggcctc 150
ccgggaaaag ggctttgcca tggagaagga catgaagaac gtcgtggggg 200
tggtggtgac cctcactcca gaaaacaacc tgcggacgct gtcctctcag 250
cacgggctgg gagggtgtga ccagagtgtc atggacctga taaagcgaaa 300
ctccggatgg gtgtttgaga atccctcaat aggcgtgctg gagctctggg 350
tgctggccac caacttcaga gactatgcca tcatcttcac tcagctggag 400
ttcggggacg agcccttcaa caccgtggag ctgtacagtc tgaccgagac 450
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gcttcctgtc acagtagcag gcccagctgc agaaggacct cacctgtgct 550
cacaagatcc ttctgtgagt gctgcgtccc cagtagggat ggcgcccaca 600
gggtcctgtg acctcggca gtgtccaccc acctcgctca gcggctcccg 650
gggcccagca ccagctcaga ataaagcgat tccacagca 689

<210> 158 <211> 163 <212> PRT

<213> Homo sapiens

<400> 158

Met Gly Gly Leu Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val 1 5 10 15

Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln 20 25 30

Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys 35 40 45

Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln 657075

His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys 80 85 90

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Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu 105
Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile 120
Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu 135
Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu 150
Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln
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<211> 1665

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<213> Homo sapiens

<400> 159

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ggtgctggag ctgccttggg tgcacctgag ggatgcagct gaattcacct 1000 gcagagctca gaaccetcte ggctctcage aggtctacct gaacgtctcc 1050 ctgcagagca aagccacatc aggagtgact cagggggtgg tcgggggagc 1100 tggagccaca gccctggtct tcctgtcctt ctgcgtcatc ttcgttgtag 1150 tgaggtcctg caggaagaaa tcggcaaggc cagcagcggg cgtgggagat 1200 acgggcatag aggatgcaaa cgctgtcagg ggttcagcct ctcaggggcc 1250 cctgactgaa ccttgggcag aagacagtcc cccagaccag cctccccag 1300 cttctgcccg ctcctcagtg ggggaaggag agctccagta tgcatcctc 1350 agcttccaga tggtgaagcc ttgggactcg cggggacagg aggccactga 1400 caccgagtac tcggagatca agatccacag atgagaaact gcagagactc 1450 accctgattg agggatcaca gccctccag gcaagggaga agtcagaggc 1500 tgattcttgt agaattaaca gccctcaacg tgatgagcta tgataacact 1550 atgaattatg tgcagagtga aaagcacaca ggctttagag tcaaagtatc 1600 tcaaacctga atccacatg tgccctccct tttattttt taactaaaag 1650 acagacaaat tccta 1665

<210> 160

<211> 463

<212> PRT

<213> Homo sapiens

<400> 160

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Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr $20 \\ 25 \\ 30$

Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr 35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala
65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg 80 85 90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser 95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg

				110					115					120
Met	Glu	Lys	Gly	Ser 125	Ile	Lys	Trp	Asn	Tyr 130	Lys	His	His	Arg	Leu 135
Ser	Val	Asn	Val	Thr 140	Ala	Leu	Thr	His	Arg 145	Pro	Asn	Ile	Leu	Ile 150
Pro	Gly	Thr	Leu	Glu 155	Ser	Gly	Суз	Pro	Gln 160	Asn	Leu	Thr	Cys	Ser 165
Val	Pro	Trp	Ala	Cys 170	Glu	Gln	Gly	Thr	Pro 175	Pro	Met	Ile	Ser	Trp 180
Ile	Gly	Thr	Ser	Val 185	Ser	Pro	Leu	Asp	Pro 190	Ser	Thr	Thr	Arg	Ser 195
Ser	Val	Leu	Thr	Leu 200	Ile	Pro	Gln	Pro	Gln 205	Asp	His	Gly	Thr	Ser 210
Leu	Thr	Cys	Gln	Val 215	Thr	Phe	Pro	Gly	Ala 220	Ser	Val	Thr	Thr	Asn 225
Lys	Thr	Val	His	Leu 230	Asn	Val	Ser	Tyr	Pro 235	Pro	Gln	Asn	Leu	Thr 240
Met	Thr	Val	Phe	Gln 245	Gly	Asp	Gly	Thr	Val 250	Ser	Thr	Val	Leu	Gly 255
Asn	Gly	Ser	Ser	Leu 260	Ser	Leu	Pro	Glu	Gly 265	Gln	Ser	Leu	Arg	Leu 270
Val	Cys	Ala	Val	Asp 275	Ala	Val	Asp	Ser	Asn 280	Pro	Pro	Ala	Arg	Leu 285
Ser	Leu	Ser	Trp	Arg 290	Gly	Leu	Thr	Leu	Cys 295	Pro	Ser	Gln	Pro	Ser 300
Asn	Pro	Gly	Val	Leu 305	Glu	Leu	Pro	Trp	Val 310	His	Leu	Arg	Asp	Ala 315
Ala	Glu	Phe	Thr	Cys 320	Arg	Ala	Gln		Pro 325		Gly	Ser	Gln	Gln 330
Val	Tyr	Leu	Asn	Val 335	Ser	Leu	Gln	Ser	Lys 340	Ala	Thr	Ser	Gly	Val 345
Thr	Gln	Gly	Val	Val 350	Gly	Gly	Ala	Gly	Ala 355	Thr	Ala	Leu	Val	Phe 360
Leu	Ser	Phe	Cys	Val 365	Ile	Phe	Val	Val	Val 370	Arg	Ser	Cys	Arg	Lys 375
Lys	Ser	Ala	Arg	Pro 380	Ala	Ala	Gly	Val	Gly 385	Asp	Thr	Gly	Ile	Glu 390
Asp	Ala	Asn	Ala	Val 395	Arg	Gly	Ser	Ala	Ser 400	Gln	Gly	Pro	Leu	Thr 405

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Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala 410 415 420
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Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser $425 \hspace{1.5cm} 430 \hspace{1.5cm} 435$

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu 440 445 450

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg
455 460

- <210> 161
- <211> 739
- <212> DNA
- <213> Homo sapiens
- <400> 161
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- accetgttee tgggtgteac geteggeetg geegetgeee tgteetteac 100
- cctggaggag gaggatatca cagggacctg gtacgtgaag gccatggtgg 150
- tcgataagga ctttccggag gacaggaggc ccaggaaggt gtccccagtg 200
- aaggtgacag ccctgggcgg tgggaagttg gaagccacgt tcaccttcat 250
- gagggaggat cggtgcatcc agaagaaaat cctgatgcgg aagacggagg 300
- agcctggcaa atacagcgcc tatgggggca ggaagctcat gtacctgcag 350
- gagetgeeca ggagggaeca etacatettt taetgeaaag accageacea 400
- tgggggcctg ctccacatgg gaaagcttgt gggtaggaat tctgatacca 450
- accgggaggc cctggaagaa tttaagaaat tggtgcagcg caagggactc 500
- tcggaggagg acattttcac gccctgcag acgggaagct gcgttcccga 550
- acactaggea geocegggt etgeacetee agageceace etaceaceag 600
- acacagagcc eggaccacct ggacctaccc tecagecatg accetteect 650
- geteceacce acetgaetee aaataaagte etttteeece aaaaaaaaaa 700
- aaaaaaaaaa aaaaaaaaaa aaaaaaaaa 739
- <210> 162
- <211> 170
- <212> PRT
- <213> Homo sapiens
- <400> 162
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Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr

20 25 30 Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg

Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly 50 55 60

Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile 65 70 75

Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr 80 85 90

Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro 95 100 105

Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly
110 115 120

Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr 125 130 135

Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys 140 145 150

Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser 155 160 165

Cys Val Pro Glu His 170

<210> 163

<211> 22

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<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-22

<223> Synthetic construct.

<400> 163

ggagatgaag accetgttee tg 22

<210> 164

<211> 26

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<213> Artificial

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<222> 1-26

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<400> 164

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    <222> 1-21
    <223> Synthetic construct.
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    <210> 166
    <211> 25
    <212> DNA
    <213> Artificial
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    <221> Artificial Sequence
    <222> 1-25
    <223> Synthetic construct.
: ak
    <400> 166
["]
     gcctagtgtt cgggaacgca gcttc 25
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    <211> 50
1,52
    <212> DNA
; #
    <213> Artificial
1,43
    <220>
    <221> Artificial Sequence
    <222> 1-50
l uk
    <223> Synthetic construct.
( " j
cagggacctg gtacgtgaag gccatggtgg tcgataagga ctttccggag 50
    <210> 168
: :::
    <211> 45
    <212> DNA
    <213> Artificial
    <220>
    <221> Artificial Sequence
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    <223> Synthetic construct.
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    <211> 1204
    <212> DNA
    <213> Homo sapiens
    <400> 169
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cagaggtete acagcageca aggaacetgg ggecegetee tececetee 100
aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggctt 150
gtagggggag agaccaggat catcaagggg ttcgagtgca agcctcactc 200
ccagccctgg caggcagccc tgttcgagaa gacgcggcta ctctgtgggg 250
cgacgctcat cgccccaga tggctcctga cagcagccca ctgcctcaag 300
ccccgctaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350
ctgtgagcag acccggacag ccactgagtc cttcccccac cccggcttca 400
acaacagcct ccccaacaaa gaccaccgca atgacatcat gctggtgaag 450
atggcatcgc cagtctccat cacctgggct gtgcgacccc tcaccctctc 500
ctcacgetqt qtcactqctq qcaccaqctq cctcatttcc qqctqqqqca 550
gcacgtccag cocccagtta cgcctgcctc acaccttgcg atgcgccaac 600
atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650
cacagacacc atggtgtgt ccagcgtgca ggaaggggc aaggactcct 700
gccagggtga ctccgggggc cctctggtct gtaaccagtc tcttcaaggc 750
attateteet ggggeeagga teegtgtgeg ateaecegaa ageetggtgt 800
ctacacqaaa qtctqcaaat atqtqqactq qatccaqqaq acqatqaaqa 850
acaattagac tggacccacc caccacagcc catcaccctc catttccact 900
tggtgtttgg ttcctgttca ctctgttaat aagaaaccct aagccaagac 950
cctctacgaa cattctttgg gcctcctgga ctacaggaga tgctgtcact 1000
taataatcaa cctggggttc gaaatcagtg agacctggat tcaaattctg 1050
ccttgaaata ttgtgactct gggaatgaca acacctggtt tgttctctgt 1100
tgtatcccca gccccaaaqa cagctcctgg ccatatatca aggtttcaat 1150
aaaa 1204
<210> 170
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<211> 250

<212> PRT

<213> Homo sapiens

<400> 170

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Val Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro
His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu
Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala
Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His
Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr
Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys
                                     100
Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val
Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys
Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr
Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn
 Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly
Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly
Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala
 Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
<210> 171
<211> 25
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<212> DNA

<213> Artificial

<220>

<221> Artificial Sequence

<222> 1-25

<223> Synthetic construct.

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<212> DNA
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<222> 1-24
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<400> 172
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<222> 1-18
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<400> 173
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<211> 24
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<222> 1-24
<223> Synthetic construct.
<400> 174
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<210> 175
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<222> 1-25
<223> Synthetic construct.
<400> 175
 cgtgtagaca ccaggctttc gggtg 25
<210> 176
<211> 18
<212> DNA
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<221> Artificial Sequence
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<222> 1-50
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<210> 178
<211> 43
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-43
<223> Synthetic construct.
<400> 178
gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43
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<211> 907
<212> DNA
<213> Homo sapiens
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 aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcatcgtcc 150
 agaaaactgc tctaagacaa gcaagaaggg agacctacta aatgcccatt 200
 atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250
 caaaatgaag gccaccccaa atggtttgtt cttggtgttg ggcaagtcat 300
 aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350
 aagtagttat acccccttca tttgcatacg gaaaggaagg ctatgcagaa 400
```

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1 182

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ggcaagattc caccggatgc tacattgatt tttgagattg aactttatgc 450 tgtgaccaaa ggaccacgga gcattgagac atttaaacaa atagacatgg 500 acaatqacaq gcaqctctct aaagccgaga taaacctcta cttgcaaagg 550 gaatttgaaa aagatgagaa gccacgtgac aagtcatatc aggatgcagt 600 tttagaagat atttttaaga agaatgacca tgatggtgat ggcttcattt 650 ctcccaagga atacaatgta taccaacacg atgaactata gcatatttgt 700 atttctactt ttttttttta gctatttact gtactttatg tataaaacaa 750 agtcactttt ctccaagttg tatttgctat ttttccccta tgagaagata 800 ttttgatctc cccaatacat tgattttggt ataataaatg tgaggctgtt 850 aaaaaaa 907

<210> 180 <211> 222 <212> PRT <213> Homo sapiens

<400> 180 Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly 115 Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu 135 125 Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser

140

145

```
Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu
                                     160
 Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
                 170
 Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu
Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser
Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu
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<211> 22
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<222> 1-22
<223> Synthetic construct.
<400> 181
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<210> 182
<211> 18
<212> DNA
<213> Artificial
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<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
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<400> 183
 cctttcagga tgtaggag 18
<210> 184
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<212> DNA
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<221> Artificial Sequence
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 cc 52
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<213> Homo sapiens
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 ctctttggag ctgtgactca gaaaaccaaa acttcctgtg ctaagtgccc 100
```

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Part I

cccaaatgct tcctgtgtca ataacactca ctgcacctgc aaccatggat 150 atacttctgg atctgggcag aaactattca cattcccctt ggagacatgt 200 aacgccaggc atggtggctc gcgcctgtaa tcccagttct ttgggaagcc 250 aaggcaggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300 atagtgaaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350 ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400 cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450 ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500 ttcttgttc atttcgcgac tgccctctca gtgtttcctg ggatcccctc 550 ccaaataaag tacttatatt ctc 573

<210> 189 <211> 74 <212> PRT <213> Homo sapiens

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<210> 191 <211> 24 <212> DNA <213> Artificial

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<213> Homo sapiens

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Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu 35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala 50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His 65 70 75

Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly 80 85 90

Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His
95 100 105

Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val 110 115 120

Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr 125 130 135

Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His 140 145 150

Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser 155 160 165

Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile 170 175 180

Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala 185 190 195

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu

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Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp

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Ile Arg Met Ile Met Arg Asn Asn

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Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp 50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met
65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys 80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr 95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu 110 115 120

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Ala Val Ala Cys Pro Thr Lys Cys Thr Cys Ser Ala Ala Ser Val 35 40 45

Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro
50 55 60

Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg
65 70 75

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu 80 85

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe
95 100 105

Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys 110 115 120

Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu 125 130 130

Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg 140 145 150

Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp 155 160 165

Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu 170 Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Ile Ser Arg 190 185 Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu 200 Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr 235 Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro Pro Ser Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu 290 Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu 310 Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser Leu Thr Ser Leu 360 Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly Leu Phe Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys 380 385 Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu 400 Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys 420 410 415 Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp 440 Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser

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Lys	Lys	Phe	Arg	Cys 485	Ser	Gly	Ser	Glu	Asp 490	Tyr	Arg	Ser	Arg	Phe 495
Ser	Ser	Glu	Cys	Phe 500	Met	Asp	Leu	Val	Cys 505	Pro	Glu	Lys	Cys	Arg 510
Cys	Glu	Gly	Thr	Ile 515	Val	Asp	Cys	Ser	Asn 520	Gln	Lys	Leu	Val	Arg 525
Ile	Pro	Ser	His	Leu 530	Pro	Glu	Tyr	Val	Thr 535	Asp	Leu	Arg	Leu	Asn 540
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Phe	Arg	Gly	Leu	Ser 605	Gly	Leu	Lys	Thr	Leu 610	Met	Leu	Arg	Ser	Asn 615
Leu	Ile	Ser	Суз	Val 620	Ser	Asn	Asp	Thr	Phe 625	Ala	Gly	Leu	Ser	Ser 630
Val	Arg	Leu	Leu	Ser 635	Leu	Tyr	Asp	Asn	Arg 640	Ile	Thr	Thr	Ile	Thr 645
Pro	Gly	Ala	Phe	Thr 650	Thr	Leu	Val	Ser	Leu 655	Ser	Thr	Ile	Asn	Let 660
Leu	Ser	Asn	Pro	Phe 665	Asn	Суз	Asn	Суз	His 670	Leu	Ala	Trp	Leu	Gl ₃ 675
Lys	Trp	Leu	Arg	Lys 680	Arg	Arg	Ile	Val	Ser 685	Gly	Asn	Pro	Arg	Cys 690
Gln	Lys	Pro	Phe	Phe 695	Leu	Lys	Glu	Ile	Pro 700	Ile	Gln	Asp	Val	Ala 705
Ile	Gln	Asp	Phe	Thr 710	Cys	Asp	Gly	Asn	Glu 715	Glu	Ser	Ser	Cys	Glr 720
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Val	Arg	Cys	Ser	Asn 740	Lys	Gly	Leu	Arg	Ala 745	Leu	Pro	Arg	Gly	Met 750

Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr 755 Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe 790 785 Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu 830 Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly 845 Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr 935 Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser 970 His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys 1005 Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile 1035 1025 Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys

			1040)			1045				1050
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Tyr	Ser	Gly	Lys Let		Glu	Thr	Asp Asn 1075	Asp	Asp	Cys	Val Ala 1080
His	Lys	Cys	Arg His		Ala	Gln	Cys Val 1090	Asp	Thr	Ile	Asn Gly 1095
Tyr	Thr	Cys	Thr Cys		Gln	Gly	Phe Ser 1105	Gly	Pro	Phe	Cys Glu 1110
His	Pro	Pro	Pro Met		Leu	Leu	Gln Thr 1120	Ser	Pro	Cys	Asp Gln 1125
Tyr	Glu	Cys	Gln Ası 1130		Ala	Gln	Cys Ile 1135	Val	Val	Gln	Gln Glu 1140
Pro	Thr	Cys	Arg Cys		Pro	Gly	Phe Ala 1150	Gly	Pro	Arg	Cys Glu 1155
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Leu	Ala	Ser	Ala Lya		Arg	Pro	Gln Ala 1180	Asn	Ile	Ser	Leu Gln 1185
Val	Ala	Thr	Asp Ly		Asn	Gly	Ile Leu 1195	Leu	Tyr	Lys	Gly Asp 1200
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gtc 753

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  cctgtgtcat cttgtcccgt ttcctcccaa tattccttct caaacttgga 700
  gagggaaaat taagctatac ttttaagaaa ataaatattt ccatttaaat 750
```

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<210> 203
<211> 148
<212> PRT
<213> Homo sapiens
<400> 203
Met Lys Ala Ala Gly Ile Leu Thr Leu Ile Gly Cys Leu Val Thr
Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile
 Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly
 Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr
 Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe
 Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu
 Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp
                   95
 Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr
                  110
 Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly
                  125
 Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser
                  140
<210> 204
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 204
 gcaggctttg aggatgaagg ctgc 24
<210> 205
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<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
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<400> 205
                 ctcattggct gcctggtcac aggc 24
               <210> 206
               <211> 24
               <212> DNA
               <213> Artificial
               <220>
               <221> Artificial Sequence
               <222> 1-24
               <223> Synthetic construct.
               <400> 206
                  ccagtcggac aggtctctcc cctc 24
                <210> 207
                <211> 24
                <212> DNA
                <213> Artificial
                <220>
                <221> Artificial Sequence
ı #Ł
                <222> 1-24
The State of the S
                <223> Synthetic construct.
                <400> 207
                   tcagtgacca aggctgagca ggcg 24
i, it
1 13 2
                 <210> 208
1,13
                 <211> 47
1, 18
                 <212> DNA
                 <213> Artificial
i uż
                 <220>
<221> Artificial Sequence
13
                 <222> 1-47
<223> Synthetic construct.
                 <400> 208
14 14 2
                    ctacactcgt tgcaaactgg caaaaatatt ctcgagggct ggcctgg 47
                 <210> 209
                  <211> 1648
                  <212> DNA
                  <213> Homo sapiens
                  <400> 209
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                     cctcagcagt gtcatgtgtt aaaaacgcca agctgaatat atcatgcccc 100
                     tattaaaact tgtacatggc tccccattgg tttttggaga aaagttcaag 150
                     ctttttacct tggtgtctgc ctgtatccca gtgttcaggc tggctagacg 200
```

geggaagaag atectatttt aetgteaett eecagatetg etteteaeca 250

agagagatto ttttottaaa cgactataca gggccccaat tgactggata 300 gaggaataca ccacaggcat ggcagactgc atcttagtca acagccagtt 350 cacagetget gtttttaagg aaacatteaa gteeetgtet cacatagace 400 ctgatgtcct ctatccatct ctaaatgtca ccagctttga ctcagttgtt 450 cctgaaaagc tggatgacct agtccccaag gggaaaaaat tcctgctgct 500 ctccatcaac agatacgaaa ggaagaaaaa tctgactttg gcactggaag 550 ccctagtaca gctgcgtgga agattgacat cccaagattg ggagagggtt 600 catctgatcg tggcaggtgg ttatgacgag agagtcctgg agaatgtgga 650 acattatcag gaattgaaga aaatggtcca acagtccgac cttggccagt 700 atgtgacctt cttgaggtct ttctcagaca aacagaaaat ctccctcctc 750 cacagetgea egtgtgtget ttacacacea ageaatgage aetttggeat 800 tgtccctctg gaagccatgt acatgcagtg cccagtcatt gctgttaatt 850 cgggtggacc cttggagtcc attgaccaca gtgtcacagg gtttctgtgt 900 gagcctgacc cggtgcactt ctcagaagca atagaaaagt tcatccgtga 950 accttcctta aaagccacca tgggcctggc tggaagagcc agagtgaagg 1000 aaaaattttc ccctgaagca tttacagaac agctctaccg atatgttacc 1050 aaactgctgg tataatcaga ttgtttttaa gatctccatt aatgtcattt 1100 ttatggattg tagacccagt tttgaaacca aaaaagaaac ctagaatcta 1150 atgcagaaga gatcttttaa aaaataaact tgagtcttga atgtgagcca 1200 ctttcctata taccacacct ccctgtccac ttttcagaaa aaccatgtct 1250 tttatgctat aatcattcca aattttgcca gtgttaagtt acaaatgtgg 1300 tgtcattcca tgttcagcag agtattttaa ttatattttc tcgggattat 1350 tgctcttctg tctataaatt ttgaatgata ctgtgcctta attggttttc 1400 atagtttaag tgtgtatcat tatcaaagtt gattaatttg gcttcatagt 1450 ataatgagag cagggctatt gtagttccca gattcaatcc accgaagtgt 1500 tcactgtcat ctgttaggga atttttgttt gtcctgtctt tgcctggatc 1550 catagogaga gtgctctgta ttttttttaa gataatttgt atttttgcac 1600 actgagatat aataaaaggt gtttatcata aaaaaaaaa aaaaaaaa 1648

<210> 210

<211> 323

<212> PRT <213> Homo sapiens

<400> 210 Met Pro Leu Lys Leu Val His Gly Ser Pro Leu Val Phe Gly Glu Lys Phe Lys Leu Phe Thr Leu Val Ser Ala Cys Ile Pro Val Phe Arg Leu Ala Arg Arg Lys Lys Ile Leu Phe Tyr Cys His Phe Pro Asp Leu Leu Thr Lys Arg Asp Ser Phe Leu Lys Arg Leu Tyr Arg Ala Pro Ile Asp Trp Ile Glu Glu Tyr Thr Thr Gly Met Ala Asp Cys Ile Leu Val Asn Ser Gln Phe Thr Ala Ala Val Phe Lys Glu Thr Phe Lys Ser Leu Ser His Ile Asp Pro Asp Val 100 95 Leu Tyr Pro Ser Leu Asn Val Thr Ser Phe Asp Ser Val Val Pro 110 Glu Lys Leu Asp Asp Leu Val Pro Lys Gly Lys Lys Phe Leu Leu 125 Leu Ser Ile Asn Arg Tyr Glu Arg Lys Lys Asn Leu Thr Leu Ala Leu Glu Ala Leu Val Gln Leu Arg Gly Arg Leu Thr Ser Gln Asp 155 Trp Glu Arg Val His Leu Ile Val Ala Gly Gly Tyr Asp Glu Arg Val Leu Glu Asn Val Glu His Tyr Gln Glu Leu Lys Lys Met Val 185 Gln Gln Ser Asp Leu Gly Gln Tyr Val Thr Phe Leu Arg Ser Phe 205 200 Ser Asp Lys Gln Lys Ile Ser Leu Leu His Ser Cys Thr Cys Val 225 215 220 Leu Tyr Thr Pro Ser Asn Glu His Phe Gly Ile Val Pro Leu Glu 235 230 Ala Met Tyr Met Gln Cys Pro Val Ile Ala Val Asn Ser Gly Gly 255 250 Pro Leu Glu Ser Ile Asp His Ser Val Thr Gly Phe Leu Cys Glu 265 260

Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg 275 Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg 290 Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr 315

Arg Tyr Val Thr Lys Leu Leu Val 320

<210> 211

<211> 1554

<212> DNA

<213> Homo sapiens

<400> 211

gactacgccg atccgagacg tggctccctg ggcggcagaa ccatgttgga 50 cttcgcgatc ttcgccgtta ccttcttgct ggcgttggtg ggagccgtgc 100 tctacctcta tccggcttcc agacaagctg caggaattcc agggattact 150 ccaactgaag aaaaagatgg taatcttcca gatattgtga atagtggaag 200 tttgcatgag ttcctggtta atttgcatga gagatatggg cctgtggtct 250 ccttctggtt tggcaggcgc ctcgtggtta gtttgggcac tgttgatgta 300 ctgaagcagc atatcaatcc caataagaca tcggaccctt ttgaaaccat 350 gctgaagtca ttattaaggt atcaatctgg tggtggcagt gtgagtgaaa 400 accacatgag gaaaaaattg tatgaaaatg gtgtgactga ttctctgaag 450 agtaactttg ccctcctcct aaagctttca gaagaattat tagataaatg 500 gctctcctac ccagagaccc agcacgtgcc cctcagccag catatgcttg 550 gttttgctat gaagtctgtt acacagatgg taatgggtag tacatttgaa 600 gatgatcagg aagtcattcg cttccagaag aatcatggca cagtttggtc 650 tgagattgga aaaggctttc tagatgggtc acttgataaa aacatgactc 700 ggaaaaaaca atatgaagat gccctcatgc aactggagtc tgttttaagg 750 aacatcataa aagaacgaaa aggaaggaac ttcagtcaac atattttcat 800 tgactcctta gtacaaggga accttaatga ccaacagatc ctagaagaca 850 gtatgatatt ttctctggcc agttgcataa taactgcaaa attgtgtacc 900 tgggcaatct gttttttaac cacctctgaa gaagttcaaa aaaaattata 950 tgaagagata aaccaagttt ttggaaatgg tcctgttact ccagagaaaa 1000 ttgagcaget cagatattgt cagcatgtge tttgtgaaac tgttcgaact 1050 gccaaactga ctccagttte tgcccagett caagatattg aaggaaaaat 1100 tgaccgattt attattecta gagagaccet cgtcetttat gccettggtg 1150 tggtacttca ggatcetaat acttggccat etccacacaa gtttgateca 1200 gatcggtttg atgatgaatt agtaatgaaa actttteet caettggatt 1250 etcaggeaca caggagtgte cagagttgag gtttgeatat atggtgaeca 1300 cagtacttet tagtgtattg gtgaagagae tgeacetaet ttetgtggag 1350 ggacaggtta ttgaaacaaa gtatgaactg gtaacateat caagggaaga 1400 agettggate actgteteaa agagatatta aaattttata catttaaaat 1450 cattgttaaa ttgattgagg aaaacaacca tttaaaaaa ateetatgtig 1500 aateettta taaaccagta teaetttgta atataaacae etattgtae 1550 ttaa 1554

<210> 212

<211> 462

<212> PRT

<213> Homo sapiens

<400> 212

Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu $1 \hspace{1cm} \cdot \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala 20 25 30

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu $35 \hspace{1cm} 40 \hspace{1cm} 45$

Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn 50 55 60

Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg $\,$ 75 $\,$

Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His 80 85 90

Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys 95 100 105

Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn 110 115 120

His Met Arg Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu 125 130 135

Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu

		140					145					150
Asp Lys T	rp Leu	Ser '	Tyr	Pro	Glu	Thr	Gln 160	His	Val	Pro	Leu	Ser 165
Gln His Me	et Leu	Gly 170	Phe	Ala	Met	Lys	Ser 175	Val	Thr	Gln	Met	Val 180
Met Gly S	er Thr	Phe 185	Glu	Asp	Asp	Gln	Glu 190	Val	Ile	Arg	Phe	Gln 195
Lys Asn H	is Gly	Thr 200	Val	Trp	Ser	Glu	Ile 205	Gly	Lys	Gly	Phe	Leu 210
Asp Gly S	er Leu	Asp 215	Lys	Asn	Met	Thr	Arg 220	Lys	Lys	Gln	Tyr	Glu 225
Asp Ala L	eu Met	Gln 230	Leu	Glu	Ser	Val	Leu 235	Arg	Asn	Ile	Ile	Lys 240
Glu Arg L	ys Gly	Arg 245	Asn	Phe	Ser	Gln	His 250	Ile	Phe	Ile	Asp	Ser 255
Leu Val G	ln Gly	Asn 260	Leu	Asn	Asp	Gln	Gln 265	Ile	Leu	Glu	Asp	Ser 270
Met Ile P	he Ser	Leu 275	Ala	Ser	Cys	Ile	Ile 280	Thr	Ala	Lys	Leu	Cys 285
Thr Trp A	la Ile	Cys 290	Phe	Leu	Thr	Thr	Ser 295	Glu	Glu	Val	Gln	Lys 300
Lys Leu T	yr Glu	Glu 305	Ile	Asn	Gln	Val	Phe 310	Gly	Asn	Gly	Pro	Val 315
Thr Pro G	lu Lys	Ile 320	Glu	Gln	Leu	Arg	Tyr 325	Cys	Gln	His	Val	Leu 330
Cys Glu T	hr Val	Arg 335	Thr	Ala	Lys	Leu	Thr 340	Pro	Val	Ser	Ala	Gln 345
Leu Gln A	sp Ile	Glu 350	Gly	Lys	Ile	Asp	Arg 355	Phe	Ile	Ile	Pro	Arg 360
Glu Thr I	eu Val	Leu 365	Tyr	Ala	Leu	Gly	Val 370	Val	Leu	Gln	Asp	Pro 375
Asn Thr I	rp Pro	Ser 380	Pro	His	Lys	Phe	Asp 385	Pro	Asp	Arg	Phe	Asp 390
Asp Glu I	Leu Val	Met 395	Lys	Thr	Phe	Ser	Ser 400	Leu	Gly	Phe	Ser	Gly 405
Thr Gln G	Glu Cys	Pro 410	Glu	Leu	Arg	Phe	Ala 415	Tyr	Met	Val	Thr	Thr 420
Val Leu I	Leu Ser	Val 425	Leu	Val	Lys	Arg	Leu 430		Leu	Leu	Ser	Val 435

Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser $440 \hspace{1.5cm} 445 \hspace{1.5cm} 450$

Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr 455 460

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens

<400> 213

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tccagcctca gagaccgccg cccttgtccc cgagggccat gggccgggtc 100
tcagggcttg tgccctctcg cttcctgacg ctcctggcgc atctggtggt 150
cgtcatcacc ttattctggt cccgggacag caacatacag gcctgcctgc 200
ctctcacgtt cacccccgag gagtatgaca agcaggacat tcagctggtg 250
gccgcgctct ctgtcaccct gggcctcttt gcagtgagc tggccggttt 300
cctctcagga gtctccatgt tcaacagcac ccagagcctc atctccattg 350
gggctcactg tagtgcatcc gtggccctgt ccttctat attcgagcgt 400
tgggagtgca ctacgtattg gtacattttt gtcttctgca gtgcccttcc 450
agctgtcact gaaatggctt tattcgtcac cgtctttggg ctgaaaaaga 500
aacccttctg attaccttca tgacggaac ctaaggacga agcctacagg 550
ggcaagggcc gcttcgtatt cctggaagaa ggaaggcata ggcttcggtt 600
ttcccctcgg aaactgcttc tgctggagga tatgtgttgg aataattacg 650
tcttgagtct gggattatcc gcattgtatt tagtgctttg taataaaata 700

aaaaaaaaa 759

<210> 214

<211> 140 <212> PRT

<213> Homo sapiens

<400> 214

Met Gly Arg Val Ser Gly Leu Val Pro Ser Arg Phe Leu Thr Leu 1 5 10 15

tgttttgtag taacattaag acttatatac agttttaggg gacaattaaa 750

Leu Ala His Leu Val Val Val Ile Thr Leu Phe Trp Ser Arg Asp
20 25 30

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu 35 40 45

Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr
50 55 60

Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val 65 70 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His 80 85 90

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp 95 100 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu 110 115 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu 125 130 135

Lys Lys Pro Phe 140

<210> 215

<211> 697

<212> DNA

<213> Homo sapiens

<400> 215

teceggacee tgeegeete ceactatgte eegeegetet atgetgeteg 50 cetgggetet eeceageete ettegacteg gageggetea ggaagegeet 150 ggeateaggg tgeegeege eatagtgeee eggaaeggat ggaaggeeet 150 ggeateagag tgeegeeage acetgageet geecttaege tatgtggtgg 200 tategeacae ggegggeage agetgeaaea eeceegeete gtgeeageag 250 eaggeeegga atgtgeagea etaeeacatg aagaeaetgg getggtgega 300 egtgggetae aactteetga ttggagaaga egggetegta taeegaggee 350 gtggetggaa etteaeggg geecacteag gteaettatg gaaeeecatg 400 teeattggea teagetteat gggeaaetae atggategg tgeecacaee 450 eeaggeeate egggeagee agggeteaet ggeetgeggt gtggeteagg 500 gageeetgag gteeaetat gtgeteaaag gaeaeeggga tgtgeaget 550 acaetetete eaggeaaeca getetaeeae eteateeag attggeeaea 600

catggccaaa aaccccactg tctccttctc caataaagat gtagctc 697

<210> 216

<211> 196

<212> PRT

<213> Homo sapiens

<400> 216

Met Ser Arg Arg Ser Met Leu Leu Ala Trp Ala Leu Pro Ser Leu
1 5 10 15

Leu Arg Leu Gly Ala Ala Gln Glu Thr Glu Asp Pro Ala Cys Cys 20 25 30

Ser Pro Ile Val Pro Arg Asn Glu Trp Lys Ala Leu Ala Ser Glu 35 40 45

Cys Ala Gln His Leu Ser Leu Pro Leu Arg Tyr Val Val Val Ser
50 55 60

His Thr Ala Gly Ser Ser Cys Asn Thr Pro Ala Ser Cys Gln Gln 65 70 75

Gln Ala Arg Asn Val Gln His Tyr His Met Lys Thr Leu Gly Trp 80 85 90

Cys Asp Val Gly Tyr Asn Phe Leu Ile Gly Glu Asp Gly Leu Val 95 100 105

Tyr Glu Gly Arg Gly Trp Asn Phe Thr Gly Ala His Ser Gly His
110 115 120

Leu Trp Asn Pro Met Ser Ile Gly Ile Ser Phe Met Gly Asn Tyr 125 130 135

Met Asp Arg Val Pro Thr Pro Gln Ala Ile Arg Ala Ala Gln Gly 140 145

Leu Leu Ala Cys Gly Val Ala Gln Gly Ala Leu Arg Ser Asn Tyr 155 160 165

Val Leu Lys Gly His Arg Asp Val Gln Arg Thr Leu Ser Pro Gly
170 175 180

Asn Gln Leu Tyr His Leu Ile Gln Asn Trp Pro His Tyr Arg Ser 185 190 195

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

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gcggggccac atctcaccta agtcccgccc catggccaat tccactctcc 250 tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300 cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350 ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400 tgctcgtcac agggaagatt gtggaccatg gcaatgggac cttcagcgtc 450 cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500 gcccccagt aaagctgtag agttccacca ggaacagcag atcttcatcg 550 aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600 gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650 ctcccgagac cacgctcaga gctcagccac ctggagctgc tcccagccct 700 tcaaagtcgt ctgtgtctac atcgccttct acagcacgga ctatcggctg 750 gtccagaagg tgtgcccaga ttacaactac catagtgata ccccctacta 800 ggacaggcct gcccatgcag gagaccatct ggacaccggg cagggaaggg 900 gttgggcctc aggcagggag gggggtggag acgaggagat gccaagtggg 950 gccagggcca agtctcaagt ggcagagaaa gggtcccaag tgctggtccc 1000 aacctgaagc tgtggagtga ctagatcaca ggagcactgg aggaggagtg 1050 ggctctctgt gcagcctcac agggctttgc cacggagcca cagagagatg 1100 ctgggtcccc gaggcctgtg ggcaggccga tcagtgtggc cccagatcaa 1150 gtcatgggag gaagctaagc ccttggttct tgccatcctg aggaaagata 1200 gcaacaggga gggggagatt tcatcagtgt ggacagcctg tcaacttagg 1250 gccagaggag ctctccagcc ctgcctagtg ggcgccctga gccccttgtc 1350 gtgtgctgag catggcatga ggctgaagtg gcaaccctgg ggtctttgat 1400 gtcttgacag attgaccatc tgtctccagc caggccaccc ctttccaaaa 1450 ttccctcttc tgccagtact cccctgtac cacccattgc tgatggcaca 1500 cccatcctta agctaagaca ggacgattgt ggtcctccca cactaaggcc 1550 acageceate egegtgetgt gtgteeetet tecaceceaa eeeetgetgg 1600 ctcctctggg agcatccatg tcccggagag gggtccctca acagtcagcc 1650

tcacctgtca gaccggggtt ctcccggatc tggatggcgc cgccctctca 1700 gcagcgggca cgggtggggc ggggccgggc cgcagagcat gtgctggatc 1750 tgttctgtt gtctgtctgt gggtgggggg aggggaggga agtcttgtga 1800 aaccgctgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850 aataaagctt gcccggggc a 1871

- <210> 218
- <211> 252
- <212> PRT
- <213> Homo sapiens
- <400> 218
- Met Gln Leu Thr Arg Cys Cys Phe Val Phe Leu Val Gln Gly Ser 1 5 10 15
- Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser 20 25 30
- Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg
 35 40 45
- Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met 50 55 60
- Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala 65 70 75
- Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro 80 85 90
- Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe 95 100 105
- Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly
 110 115 120
- Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln $125 \hspace{1cm} 130 \hspace{1cm} 135$
- His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro $140_{\,\cdot\,}$ 145 150
- Pro Ser Lys Ala Val Glu Phe His Glu Glu Glu Gln Ile Phe Ile 155 160 165
- Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu 170 175 180
- Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro 185 190 195
- Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp
 200 205 210

```
Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe 215 220 225
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Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr 230 235

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly 245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

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<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

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 Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr
 Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile
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Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu
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<213> Homo sapiens

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Asp	Asn	Lys	Asp	Gly 65	Pro	Thr	Gln	Lys	Tyr 70	Leu	Leu	Ile	Phe	Gly 75
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Pro	Gly	Glu	Thr	Ala 110	Pro	Ser	Met	Arg	Leu 115	Leu	Ala	Tyr	Val	Ser 120
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Thr	Leu	Ser	Asp	Ser 140	Leu	Gly	Pro	Gly	Thr 145	Val	Gly	Ile	His	Gly 150
Asp	Ser	Pro	Gln	Phe 155	Phe	Leu	Tyr	Ser	Ala 160	Phe	Met	Thr	Leu	Val 165
Ile	Ile	Leu	Leu	His 170	Val	Phe	Trp	Gly	Ile 175	Val	Phe	Phe	Asp	Gly 180
Cys	Glu	Lys	Lys	Lys 185	Trp	Gly	Ile	Leu	Leu 190	Ile	Val	Leu	Leu	Thr 195
His	Leu	Leu	Val	Ser 200	Ala	Gln	Thr	Phe	Ile 205		Ser	Tyr	Tyr	Gly 210
Ile	Asn	Leu	Ala	Ser 215		Phe	Ile	Ile	Leu 220		Leu	Met	Gly	Thr 225
Trp	Ala	Phe	Leu	Ala 230	Ala	Gly	Gly	Ser	Cys 235	Arg	Ser	Leu	Lys	Leu 240
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Ser Arg

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<211> 832

<212> PRT

<213> Homo sapiens

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Ser	Phe	Glu	Asn	Val 365	Ser	Gly	Ser	Thr	Asp 370	Gly	Leu	Val	Asp	Ser 375
Ala	Gly	Thr	Gly	Asp 380	Leu	Ser	Tyr	Gly	Tyr 385	Gln	Gly	Arg	Ser	Phe 390
Glu	Pro	Val	Gly	Thr 395	Arg	Pro	Arg	Val	Asp 400	Ser	Met	Ser	Ser	Val 405
Glu	Glu	Asp	Asp	Tyr 410	Asp	Thr	Leu	Thr	Asp 415	Ile	Asp	Ser	Asp	Lys 420
Asn	Val	Ile	Arg	Thr 425	Lys	Gln	Tyr	Leu	Tyr 430	Val	Ala	Asp	Leu	Ala 435
Arg	Lys	Asp	Lys	Arg 440	Val	Leu	Arg	Lys	Lys 445	Tyr	Gln	Ile	Tyr	Phe 450
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Gln	Leu	Val	Ile	Thr 470	Tyr	Gln	Thr	Val	Val 475	Asn	Val	Thr	Gly	Asn 480
Gln	Asp	Ile	Cys	Tyr 485	Tyr	Asn	Phe	Leu	Cys 490	Ala	His	Pro	Leu	Gly 495
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Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val
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Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala
Ile Gly Ile Cys Asn Leu Leu Tyr Phe Ala Phe Tyr Ile Ile
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
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Ser	Gly	Lys	Ala	Thr 65	Glu	Gly	Pro	Phe	Ala 70		Asp	Pro	Asp	Ser 75
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Asp	Gln	Val	Pro	His 125	Phe	Ser	Gln	Ala	Ile 130	Tyr	Arg	Ala	Arg	Leu 135
Ser	Arg	Gly	Thr	Arg 140	Pro	Gly	Ile	Pro	Phe 145	Leu	Phe	Leu	Glu	Ala 150
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Thr	Ala	Thr	Val	Glu 230	Val	Ser	Ile	Ile	Glu 235	Ser	Thr	Trp	Val	Ser 240
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His	Leu	Glu	Ser	His 275	Pro	Pro	Gly	Pro	Phe 280	Glu	Val	Asn	Ala	Glu 285
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Lys	Val	Gly	Arg	Met 755	Lys	Gly	Met	Pro	Thr 760	Lys	Leu	Ser	Ala	Val 765
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Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe 50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala 65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr 80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met
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Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn 125 130 135

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly
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His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr 155 160 165

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Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro
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Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp
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Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn
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Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met
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35 40 45

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Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val
65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr 80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr 95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser 110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala 125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly 140 145

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe 155 160 165

Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys 170 175 180

Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp 185 190 195

Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala

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Pro	Phe	Leu	Val	Gly 230	Glu	Gln	Val	Thr	Val 235	Gln	Val	Pro	Met	Met 240
His	Gln	Lys	Glu	Gln 245	Phe	Ala	Phe	Gly	Val 250	Asp	Thr	Glu	Leu	Asn 255
Cys	Phe	Val	Leu	Gln 260	Met	Asp	Tyr	Lys	Gly 265	Asp	Ala	Val	Ala	Phe 270
Phe	Val	Leu	Pro	Ser 275	Lys	Gly	Lys	Met	Arg 280	Gln	Leu	Glu	Gln	Ala 285
Leu	Ser	Ala	Arg	Thr 290	Leu	Ile	Lys	Trp	Ser 295	His	Ser	Leu	Gln	Lys 300
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Leu	Gln	Val	Ser	Lys 350	Ala	Thr	His	Lys	Ala 355	Val	Leu	Asp	Val	Ser 360
Glu	Glu	Gly	Thr	Glu 365	Ala	Thr	Ala	Ala	Thr 370	Thr	Thr	Lys	Phe	Ile 375
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Ala Asn Thr Gly Ser Ser Val Ile Ser Ser Gly Ala Ser Thr Ala 35 40 45

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala 50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val 65 70 75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 110 Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 200 205 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala 215 220 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 230 Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 270 Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala 275 280 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 295 290 Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala 320 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala

370 375 365 Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Val Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala 410 Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Glu Ala Ser Thr Ala Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala Thr Asn Ser Gly Ser Ser Val Thr Ser Ala Gly Ser Gly Thr Ala Ala Leu Thr Gly Met His Thr Thr Ser His Ser Ala Ser Thr Ala Val Ser Glu Ala Lys Pro Gly Gly Ser Leu Val Pro Trp Glu Ile Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe 515 520 Ala Gly Leu Phe Phe Cys Val Arg Asn Ser Leu Ser Leu Arg Asn 530 535 Thr Phe Asn Thr Ala Val Tyr His Pro His Gly Leu Asn His Gly Leu Gly Pro Gly Pro Gly Gly Asn His Gly Ala Pro His Arg Pro Arg Trp Ser Pro Asn Trp Phe Trp Arg Arg Pro Val Ser Ser Ile 575 580 Ala Met Glu Met Ser Gly Arg Asn Ser Gly Pro

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<211> 247

<212> PRT

<213> Homo sapiens

<400> 248

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Leu Gly Ala Leu Ser Gly Trp Ala Ala Ser Asp Asp Pro Ile Glu 20 25 30

Lys Val Ile Glu Gly Ile Asn Arg Gly Leu Ser Asn Ala Glu Arg 35 40 45

Glu Val Gly Lys Ala Leu Asp Gly Ile Asn Ser Gly Ile Thr His
50 55 60

Ala Gly Arg Glu Val Glu Lys Val Phe Asn Gly Leu Ser Asn Met 65 70 75

Gly Ser His Thr Gly Lys Glu Leu Asp Lys Gly Val Gln Gly Leu 80 85 90

Asn His Gly Met Asp Lys Val Ala His Glu Ile Asn His Gly Ile 95 100 105

Gly Gln Ala Gly Lys Glu Ala Glu Lys Leu Gly His Gly Val Asn 110 115 120

Asn Ala Ala Gly Gln Ala Gly Lys Glu Ala Asp Lys Ala Val Gln 125 130 130

Gly Phe His Thr Gly Val His Gln Ala Gly Lys Glu Ala Glu Lys 140 145 150

Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu 155 160 160

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala 170 175

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Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser
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Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser
Ser Ser His Gln Gly Gly Ala Thr Thr Pro Leu Ala Ser Gly
                 215
Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg
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14

145

1,42

<213> Homo sapiens

<400> 252

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<212> PRT

<213> Homo sapiens

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Trp Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu 20 25 30

Leu Leu Leu Leu Gln Pro Pro Pro Pro Thr Trp Ala Leu Ser 35 40 45

Pro Arg Ile Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu
50 55 60

Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu 65 70 75

Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu

				80					85					90
Phe	Ala	Leu	Ser	Ser 95	Asn	Leu	Ser	Phe	Leu 100	Pro	Gly	Gly	Glu	Tyr 105
Gln	Glu	Leu	Leu	Trp 110	Gly	Ala	Asp	Ala	Glu 115	Lys	Lys	Gln	Gln	Cys 120
Ser	Phe	Lys	Gly	Lys 125	Asp	Pro	Gln	Arg	Asp 130	Cys	Gln	Asn	Tyr	Ile 135
Lys	Ile	Leu	Leu	Pro 140	Leu	Ser	Gly	Ser	His 145	Leu	Phe	Thr	Cys	Gly 150
Thr	Ala	Ala	Phe	Ser 155	Pro	Met	Cys	Thr	Tyr 160	Ile	Asn	Met	Glu	Asn 165
Phe	Thr	Leu	Ala	Arg 170	Asp	Glu	Lys	Gly	Asn 175	Val	Leu	Leu	Glu	Asp 180
Gly	Lys	Gly	Arg	Cys 185	Pro	Phe	Asp	Pro	Asn 190	Phe	Lys	Ser	Thr	Ala 195
Leu	Val	Val	Asp	Gly 200	Glu	Leu	Tyr	Thr	Gly 205	Thr	Val	Ser	Ser	Phe 210
Gln	Gly	Asn	Asp	Pro 215	Ala	Ile	Ser	Arg	Ser 220	Gln	Ser	Leu	Arg	Pro 225
Thr	Lys	Thr	Glu	Ser 230	Ser	Leu	Asn	Trp	Leu 235	Gln	Asp	Pro	Ala	Phe 240
Val	Ala	Ser	Ala	Tyr 245	Ile	Pro	Glu	Ser	Leu 250	Gly	Ser	Leu	Gln	Gly 255
Asp	Asp	Asp	Lys	Ile 260	Tyr	Phe	Phe	Phe	Ser 265	Glu	Thr	Gly	Gln	Glu 270
Phe	Glu	Phe	Phe	Glu 275	Asn	Thr	Ile	Val	Ser 280	Arg	Ile	Ala	Arg	Ile 285
Cys	.Lys	Gly	Asp	Glu 290	Gly	Gly	Glu	Arg	Val 295	Leu	Gln	Gln	Arg	Trp 300
Thr	Ser	Phe	Leu	Lys 305	Ala	Gln	Leu	Leu	Cys 310	Ser	Arg	Pro	Asp	Asp 315
Gly	Phe	Pro	Phe	Asn 320	Val	Leu	Gln	Asp	Val 325	Phe	Thr	Leu	Ser	Pro 330
Ser	Pro	Gln	Asp	Trp 335	Arg	Asp	Thr	Leu	Phe 340	Tyr	Gly	Val	Phe	Thr 345
Ser	Gln	Trp	His	Arg 350	Gly	Thr	Thr	Glu	Gly 355	Ser	Ala	Val	Cys	Val 360
Phe	Thr	Met	Lys	Asp 365	Val	Gln	Arg	Val	Phe 370	Ser	Gly	Leu	Tyr	Lys 375

Glu Val Asn Arg Glu Thr Gln Gln Trp Tyr Thr Val Thr His Pro Val Pro Thr Pro Arg Pro Gly Ala Cys Ile Thr Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln Val Arg Ser Arg Met Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu Phe 460 Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu 500 505 Tyr Ala Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu 560 Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn 630 Ala Ser Ala Ser Cys His Val Leu Pro Thr Gly Asp Leu Leu 640 Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys Trp Ser Leu Glu 650 655 660 Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro Glu Val Val

665 670 675 Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser Val Pro Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val Met Cys Thr Leu Phe Val Leu Ala Val Leu Pro Val Leu Phe Leu Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu 760 Pro Pro Glu Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ala Arg Val Phe Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu Val Ser Pro Val Cys Pro Arg Pro Arg 815 820 Val Arg Leu Gly Ser Glu Ile Arg Asp Ser Val Val 835 <210> 254 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct. <400> 254 agcccgtgca gaatctgctc ctgg 24 <210> 255 <211> 24 <212> DNA <213> Artificial <220> <221> Artificial Sequence <222> 1-24 <223> Synthetic construct.

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    <221> unsure
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     cggggacagg cgccgtgcga accgagccca gccagccgga ggacgcgggc 100
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Ala Ser Glu Leu Lys Arg Ala Gly Pro Arg Arg Ala Ser Pro
35 40 45

Glu Gly Cys Arg Ser Gly Gln Ala Ala Ala Ser Gln Ala Gly Gly
50 55 60

Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser
65 70 75

Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly 80 85 90

Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala 95 100 105

Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe 110 115 120

Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro
125 130 135

Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe
140 145 150

Met Met Leu Lys Tyr Met His Asp His Tyr Leu Asp Lys Tyr Glu 155 160 165

Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg
170 175 180

Leu Glu Asn Phe Leu Arg Ser Leu Asn Ser Ser Glu Pro Leu Phe 185 190 195

Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu
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Ala Leu Glu Pro Gly Glu Asn Phe Cys Met Gly Gly Pro Gly Val

Ile Met Ser Arg Glu Val Leu Arg Arg Met Val Pro His Ile Gly 230 235 240

Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val Gly Arg Cys Val Arg Arg Phe Ala Gly Val Gln Cys Val Trp Ser Tyr Glu Met Arg Gln Leu Phe Tyr Glu Asn Tyr Glu Gln Asn Lys 275 280 Lys Gly Tyr Ile Arg Asp Leu His Asn Ser Lys Ile His Gln Ala Ile Thr Leu His Pro Asn Lys Asn Pro Pro Tyr Gln Tyr Arg Leu 305 His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu 515 520 His Lys Glu Pro Lys Asp Lys Ile Asn Ile Leu Ile Pro Leu

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Lys	Thr	Cys	Leu	Ile 560	Pro	Asn	Gln	Asn	Val 565	Lys	Leu	Val	Val	Leu 570
Leu	Phe	Asn	Ser	Asp 575	Ser	Asn	Pro	Asp	Lys 580	Ala	Lys	Gln	Val	Glu 585
Leu	Met	Arg	Asp	Tyr 590	Arg	Ile	Lys	Tyr	Pro 595	Lys	Ala	Asp	Met	Gln 600
Ile	Leu	Pro	Val	Ser 605	Gly	Glu	Phe	Ser	Arg 610	Ala	Leu	Ala	Leu	Glu 615
Val	Gly	Ser	Ser	Gln 620	Phe	Asn	Asn	Glu	Ser 625	Leu	Leu	Phe	Phe	Cys 630
Asp	Val	Asp	Leu	Val 635	Phe	Thr	Thr	Glu	Phe 640	Leu	Gln	Arg	Cys	Arg 645
Ala	Asn	Thr	Val	Leu 650	Gly	Gln	Gln	Ile	Tyr 655	Phe	Pro	Ile	Ile	Phe 660
Ser	Gln	Tyr	Asp	Pro 665	Lys	Ile	Val	Tyr	Ser 670	Gly	Lys	Val	Pro	Ser 675
Asp	Asn	His	Phe	Ala 680	Phe	Thr	Gln	Lys	Thr 685	Gly	Phe	Trp	Arg	Asn 690
Tyr	Gly	Phe	Gly	Ile 695	Thr	Cys	Ile	Tyr	Lys 700	Gly	Asp	Leu	Val	Arg 705
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Val	Asp	Leu	Phe	Asn 725	Lys	Val	Val	Gln	Ala 730	Gly	Leu	Lys	Thr	Phe 735
Arg	Ser	Gln	Glu	Val 740	Gly	Val	Val	His	Val 745	His	His	Pro	Val	Phe 750
Cys	Asp	Pro	Asn	Leu 755	Asp	Pro	Lys	Gln	Tyr 760	Lys	Met	Cys	Leu	Gly 765
Ser	Lys	Ala	Ser	Thr 770	Tyr	Gly	Ser	Thr	Gln 775	Gln	Leu	Ala	Glu	Met 780
Trp	Leu	Glu	Lys	Asn 785	Asp	Pro	Ser	Tyr	Ser 790	Lys	Ser	Ser	Asn	Asn 795
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Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg 35 40 45

Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser

				50					55					60
Pro	Lys	His	Val	Tyr 65	Ser	Ile	Ala	Ser	Lys 70	Gly	Ser	Lys	Phe	Lys 75
Glu	Leu	Val	Thr	His 80	Gly	Asp	Ala	Ser	Thr 85	Glu	Asn	Asp	Val	Leu 90
Thr	Asn	Pro	Ile	Ser 95	Glu	Glu	Thr	Thr	Thr 100	Phe	Pro	Thr	Gly	Gly 105
Phe	Thr	Pro	Glu	Ile 110	Gly	Lys	Lys	Lys	His 115	Thr	Glu	Ser	Thr	Pro 120
Phe	Trp	Ser	Ile	Lys 125	Pro	Asn	Asn	Val	Ser 130	Ile	Val	Leu	His	Ala 135
Glu	Glu	Pro	Tyr	Ile 140	Glu	Asn	Glu	Glu	Pro 145	Glu	Pro	Glu	Pro	Glu 150
Pro	Ala	Ala	Lys	Gln 155	Thr	Glu	Ala	Pro	Arg 160	Met	Leu	Pro	Val	Val 165
Thr	Glu	Ser	Ser	Thr 170	Ser	Pro	Tyr	Val	Thr 175	Ser	Tyr	Lys	Ser	Pro 180
Val	Thr	Thr	Leu	Asp 185	Lys	Ser	Thr	Gly	Ile 190	Glu	Ile	Ser	Thr	Glu 195
Ser	Glu	Asp	Val	Pro 200	Gln	Leu	Ser	Gly	Glu 205	Thr	Ala	Ile	Glu	Lys 210
Pro	Glu	Glu	Phe	Gly 215	Lys	His	Pro	Glu	Ser 220	Trp	Asn	Asn	Asp	Asp 225
Ile	Leu	Lys	Lys	Ile 230	Leu	Asp	Ile	Asn	Ser 235	Gln	Val	Gln	Gln	Ala 240
Leu	Leu	Ser	Asp	Thr 245	Ser	Asn	Pro	Ala	Tyr 250	Arg	Glu	Asp	Ile	Glu 255
Ala	Ser	Lys	Asp	His 260	Leu	Lys	Arg	Ser	Leu 265	Ala	Leu	Ala	Ala	Ala 270
Ala	Glu	His	Lys	Leu 275	Lys	Thr	Met	Tyr	Lys 280	Ser	Gln	Leu	Leu	Pro 285
Val	Gly	Arg	Thr	Ser 290	Asn	Lys	Ile	Asp	Asp 295	Ile	Glu	Thr	Val	Ile 300
Asn	Met	Leu	Суз	Asn 305	Ser	Arg	Ser	Lys	Leu 310	Tyr	Glu	Tyr	Leu	Asp 315
Ile	Lys	Cys	Val	Pro 320	Pro	Glu	Met	Arg	Glu 325	Lys	Ala	Ala	Thr	Val 330
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<211> 466 <212> PRT

<213> Homo sapiens

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Thr Ser	Ala	Glu	Ala 50	Met	Glu	Val	Arg	Phe 55	Phe	Arg	Asn	Gln	Phe 60
His Ala	Val	Val	His 65	Leu	Tyr	Arg	Asp	Gly 70	Glu	Asp	Trp	Glu	Ser 75
Lys Gln	Met	Pro	Gln 80	Tyr	Arg	Gly	Arg	Thr 85	Glu	Phe	Val	Lys	Asp 90
Ser Ile	Ala	Gly	Gly 95	Arg	Val	Ser	Leu	Arg 100	Leu	Lys	Asn	Ile	Thr 105
Pro Ser	Asp	Ile	Gly 110	Leu	Tyr	Gly	Cys	Trp 115	Phe	Ser	Ser	Gln	Ile 120
Tyr Asp	Glu	Glu	Ala 125	Thr	Trp	Glu	Leu	Arg 130	Val	Ala	Ala	Leu	Gly 135
Ser Leu	Pro	Leu	Ile 140	Ser	Ile	Val	Gly	Tyr 145	Val	Asp	Gly	Gly	Ile 150
Gln Leu	Leu	Cys	Leu 155	Ser	Ser	Gly	Trp	Phe 160	Pro	Gln	Pro	Thr	Ala 165
Lys Trp	Lys	Gly	Pro 170	Gln	Gly	Gln	Asp	Leu 175	Ser	Ser	Asp	Ser	Arg 180
Ala Asn	Ala	Asp	Gly 185	Tyr	Ser	Leu	Tyr	Asp 190	Val	Glu	Ile	Ser	Ile 195
Ile Val	Gln	Glu	Asn 200	Ala	Gly	Ser	Ile	Leu 205	Суз	Ser	Ile	His	Leu 210
Ala Glu	Gln	Ser	His 215	Glu	Val	Glu	Ser	Lys 220	Val	Leu	Ile	Gly	Glu 225
Thr Phe	Phe	Gln	Pro 230	Ser	Pro	Trp	Arg	Leu 235	Ala	Ser	Ile	Leu	Leu 240
Gly Leu	Leu	Cys	Gly 245	Ala	Leu	Cys	Gly	Val 250	Val	Met	Gly	Met	Ile 255
Ile Val	Phe	Phe	Lys 260	Ser	Lys	Gly	Lys	Ile 265	Gln	Ala	Glu	Leu	Asp 270
Trp Arg	Arg	Lys	His 275	Gly	Gln	Ala	Glu	Leu 280	Arg	Asp	Ala	Arg	Lys 285
His Ala	Val	Glu	Val 290	Thr	Leu	Asp	Pro	Glu 295	Thr	Ala	His	Pro	Lys 300
Leu Cys	Val	Ser	Asp 305	Leu	Lys	Thr	Val	Thr 310	His	Arg	Lys	Ala	Pro 315

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Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val
Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp
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Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn
                                     370
                 365
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr
                                                          390
                                     385
                 380
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr
                 395
                                     400
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe
                                                          420
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys
                                                          435
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr
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Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp
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                 455
Gly
<210> 268
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<210> 268 <211> 2103 <212> DNA <213> Homo sapiens

<400> 268

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gtcatcttca tatccctgat tgtcctggca gtgtgcattg gactcactgt 150
tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200
tgtcatttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250
aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300
attttataaa tctccattaa gggaagaatt tgtcaagtct caggttatca 350
agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400
agatttcact ctactgagga tcctgaaact gtagataaaa ttgttcaact 450
tgttttacat gaaaagctgc aagatgctgt aggacccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550 ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600 caggatcgtt ggtgggacag aagtagaaga gggtgaatgg ccctggcagg 650 ctagcctgca gtgggatggg agtcatcgct gtggagcaac cttaattaat 700 gccacatggc ttgtgagtgc tgctcactgt tttacaacat ataagaaccc 750 tgccagatgg actgcttcct ttggagtaac aataaaacct tcgaaaatga 800 aacqqqqtct ccqqaqaata attqtccatq aaaaatacaa acacccatca 850 catgactatg atattetet tgcagagett tetagecetg tteectacae 900 aaatqcaqta cataqaqttt qtctccctqa tqcatcctat gagtttcaac 950 caggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000 tacagtcaaa atcatcttcg acaagcacag gtgactctca tagacgctac 1050 aacttgcaat gaacctcaag cttacaatga cgccataact cctagaatgt 1100 tatgtgctgg ctccttagaa ggaaaaacag atgcatgcca gggtgactct 1150 ggaggaccac tgqttagttc agatgctaga gatatctggt accttgctgg 1200 aatagtgagc tggggagatg aatgtgcgaa acccaacaag cctggtgttt 1250 atactagagt tacggccttg cgggactgga ttacttcaaa aactggtatc 1300 taagagacaa aagcctcatg gaacagataa cattttttt tgttttttgg 1350 gtgtggaggc catttttaga gatacagaat tggagaagac ttgcaaaaca 1400 gctagatttg actgatctca ataaactgtt tgcttgatgc atgtattttc 1450 ttcccagete tgttccgcac gtaagcatee tgettctgce agatcaacte 1500 tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550 atacaatatt acattacaqc ctqtattcat ttqttctcta gaagttttqt 1600 cagaattttg acttgttgac ataaatttgt aatgcatata tacaatttga 1650 agcactcctt ttcttcagtt cctcagctcc tctcatttca gcaaatatcc 1700 attttcaagg tgcagaacaa ggagtgaaag aaaatataag aagaaaaaaa 1750 tcccctacat tttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800 aatattagaa atgatcatat tcattatgaa aggtcaagca aagacagcag 1850 aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900 tccagaaaga agccaagata tatccttatt ttcatttcca aacaactact 1950 atgataaatg tgaagaagat tctgttttt tgtgacctat aataattata 2000 caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatattat 2050 ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100 cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

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20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr
35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr
50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn 65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala 80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val 95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu
110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp 125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val 140 145 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile 155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr 170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly 185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln
200 205 210

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr 215 220 225

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Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro
Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys
Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys
His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser
                275
Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp
                                     295
                290
Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly
                                                         315
                                     310
Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg
                                                         330
                320
Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro
                335
Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly
                                                         360
                350
Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly
                                                         375
Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly
                                                         390
                380
Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly
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Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys
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Thr Gly Ile
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<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

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cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150
catgctgggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200
ttcccagagc tcagcccttg gcccctcaag actttgaaga agaggaggca 250

gatgagactg agacggcgtg gccgcctttg ccggctgtcc cctgcgacta 300 cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350 ggccggcggc ctgcctgtgc ccaggactct ccagccccgc ccagccgccc 400 gacccgccgc gcatgggaga agtgcgcatt gcggccgaag agggccgcgc 450 agtggtccac tggtgtgccc ccttctcccc ggtcctccac tactggctgc 500 tgctttggga cggcagcgag gctgcgcaga aggggccccc gctgaacgct 550 acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600 cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650 ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700 agecgeettg eggtgeegee caaceceege actetggtee aegeggeegt 750 cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800 acttctgcct gegegatege tggggetgee egeegeegage egeegeeega 850 gccgcagggg cgctctgaaa ggggcctggg ggcatctcgg gcacagacag 900 ccccacctgg ggcgctcagc ctggcccccg ggaaagagga aaacccgctg 950 cctccaggga gggctggacg gcgagctggg agccagcccc aggctccagg 1000 gccacggcgg agtcatggtt ctcaggactg agcgcttgtt taggtccggt 1050 acttggcgct ttgtttcctg gctgaggtct gggaaggaat agaaaggggc 1100 ccccaatttt tttttaagcg gccagataat aaataatgta acctttgcgg 1150 ttaaaaaaaa aaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

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Glu Glu Ala Asp Glu Thr Glu Thr Ala Trp Pro Pro Leu Pro Ala 35 40 45

Val Pro Cys Asp Tyr Asp His Cys Arg His Leu Gln Val Pro Cys
50 55 60

Lys Glu Leu Gln Arg Val Gly Pro Ala Ala Cys Leu Cys Pro Gly
65 70 75

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Leu Ser Ser Pro Ala Gln Pro Pro Asp Pro Pro Arg Met Gly Glu
80 85 90
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Val Arg Ile Ala Ala Glu Glu Gly Arg Ala Val His Trp Cys 95 100 105

Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Leu Trp Asp 110 115 120

Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val 125 130 135

Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val 140 145 150

Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro 155 160 165

Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe 170 175 180

Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu 185 190 195

Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Ser 200 205 210

Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly 215 220 225

Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu 230 235

<210> 272

<211> 2397

<212> DNA

<213> Homo sapiens

<400> 272

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aagtttgctt gtcattttct gtgtagaact ggcttgtggc gtttggacat 550 atgaacagga acttatggtt ccagtacaat ggtcagatat ggtcactttg 600 aaagccagga tgacaaatta tggattacct agatatcggt ggcttactca 650 tgcttggaat ttttttcaga gagagtttaa gtgctgtgga gtagtatatt 700 tcactgactg gttggaaatg acagagatgg actggccccc agattcctgc 750 tqtqttagag aattcccagg atgttccaaa caggcccacc aggaagatct 800 cagtgacctt tatcaagagg gttgtgggaa gaaaatgtat tcctttttga 850 qaqqaaccaa acaactqcaq qtqctqaqqt ttctqqqaat ctccattqqq 900 gtgacacaaa tcctggccat gattctcacc attactctgc tctgggctct 950 gtattatgat agaagggagc ctgggacaga ccaaatgatg tccttgaaga 1000 atgacaactc tcagcacctg tcatgtccct cagtagaact gttgaaacca 1050 agcctgtcaa gaatctttga acacacatcc atggcaaaca gctttaatac 1100 acactttgag atggaggagt tataaaaaaga aatgtcacag aagaaaacca 1150 caaacttgtt ttattggact tgtgaatttt tgagtacata ctatgtgttt 1200 cagaaatatg tagaaataaa aatgttgcca taaaataaca cctaagcata 1250 tactattcta tgctttaaaa tgaggatgga aaagtttcat gtcataagtc 1300 accacctgga caataattga tgcccttaaa atgctgaaga cagatgtcat 1350 acceactgtg tagectgtgt atgactttta etgaacacag ttatgttttg 1400 aggcagcatg gtttgattag catttccgca tccatgcaaa cgagtcacat 1450 atggtgggac tggagccata gtaaaggttg atttacttct accaactagt 1500 atataaagta ctaattaaat gctaacatag gaagttagaa aatactaata 1550 acttttatta ctcagcgatc tattcttctg atgctaaata aattatatat 1600 cagaaaactt tcaatattgg tgactaccta aatgtgattt ttgctggtta 1650 ctaaaatatt cttaccactt aaaagagcaa gctaacacat tgtcttaagc 1700 tgatcaggga ttttttgtat ataagtctgt gttaaatctg tataattcag 1750 tcgatttcag ttctgataat gttaagaata accattatga aaaggaaaat 1800 ttgtcctgta tagcatcatt atttttagcc tttcctgtta ataaagcttt 1850 actattctqt cctqqqctta tattacacat ataactqtta tttaaatact 1900 taaccactaa ttttgaaaat taccagtgtg atacatagga atcattattc 1950

agaatgtagt ctggtcttta ggaagtatta ataagaaaat ttgcacataa 2000 cttagttgat tcagaaagga cttgtatgct gttttctcc caaatgaaga 2050 ctctttttga cactaaacac tttttaaaaa gcttatcttt gccttctcca 2100 aacaagaagc aatagtctcc aagtcaatat aaattctaca gaaaatagtg 2150 ttcttttct ccagaaaaat gcttgtgaga atcattaaaa catgtgacaa 2200 tttagagatt ctttgttta tttcactgat taatatactg tggcaaatta 2250 cacagattat taaattttt tacaagagta tagtatatt atttgaaatg 2300 ggaaaagtgc attttactgt attttgtgta ttttgtttat ttctcagaat 2350 atggaaagaa aattaaaatg tgtcaataaa tatttctag agagtaa 2397

<210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

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Ala Leu Asn Leu Leu Phe Trp Leu Met Ser Ile Ser Val Leu Ala 20 25 30

Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu 35 40 45

Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe
50 55 60

Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile 65 70 75

Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu 80 85 90

Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys 95 100 105

Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met 110 115 120

Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met 125 130 135

Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp
140 145 150

Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe 155 160 165

Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser

				170					175					180
Cys	Cys	Val	Arg	Glu 185	Phe	Pro	Gly	Cys	Ser 190	Lys	Gln	Ala	His	Gln 195
Glu	Asp	Leu	Ser	Asp 200	Leu	Tyr	Gln	Glu	Gly 205	Cys	Gly	Lys	Lys	Met 210
Tyr	Ser	Phe	Leu	Arg 215	Gly	Thr	Lys	Gln	Leu 220	Gln	Val	Leu	Arg	Phe 225
Leu	Gly	Ile	Ser	Ile 230	Gly	Val	Thr	Gln	Ile 235	Leu	Ala	Met	Ile	Leu 240
Thr	Ile	Thr	Leu	Leu 245	Trp	Ala	Leu	Tyr	Tyr 250	Asp	Arg	Arg	Glu	Pro 255
Gly	Thr	Asp	Gln	Met 260	Met	Ser	Leu	Lys	Asn 265	Asp	Asn	Ser	Gln	His 270
Leu	Ser	Cys	Pro	Ser 275	Val	Glu	Leu	Leu	Lys 280	Pro	Ser	Leu	Ser	Arg 285
Ile	Phe	Glu	His	Thr 290	Ser	Met	Ala	Asn	Ser 295	Phe	Asn	Thr	His	Phe 300
Glu	Met	Glu	Glu	Leu 305										
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<212> DNA

<213> Homo sapiens

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<210> 275

<211> 432

<212> PRT

<213> Homo sapiens

<400> 275

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Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser 35 40 45

Ile Ile Ile Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr
50 55 60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln 65 70 75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu 80 85 90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg 95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr 110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu 125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu 140 145 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn 155 160 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser 170 175 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu 185 190

Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser 200 205 210

Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys 215 220 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His 230 235 240

Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala 245 250 255

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Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys
Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp
                                    280
Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr
                                    295
                290
Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro
                305
                                    310
Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn
                                                         330
                320
                                     325
Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val
Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu
                                                         360
                350
Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val
                365
                                                         375
Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser
                                                         390
                380
Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys
                                                         405
                395
Gly Gly Pro Ser Thr Pro Gly Val Tyr Thr Lys Val Ser Ala Tyr
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Leu Asn Trp Ile Tyr Asn Val Trp Lys Ala Glu Leu
                425
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gagcatggcc ctcccagccc tgggcctgga cccctggagc ctcctgggcc 150
ttttcctctt ccaactgctt cagctgctgc tgccgacgac gaccgcgggg 200
ggaggcgggc aggggcccat gcccagggtc agatactatg caggggatga 250
acgtagggca cttagcttct tccaccagaa gggcctccag gattttgaca 300
ctctgctcct gagtggtgat ggaaatactc tctacgtggg ggctcgagaa 350
gccattctgg ccttggatat ccaggatcca ggggtccca ggctaaagaa 400

catgataccg tggccagcca gtgacagaaa aaagagtgaa tgtgccttta 450 agaagaagag caatgagaca cagtgtttca acttcatccg tgtcctggtt 500 tottacaatg toaccoatct ctacacctgc ggcaccttcg ccttcagccc 550 tgcttgtacc ttcattgaac ttcaagattc ctacctgttg cccatctcgg 600 aggacaaggt catggaggga aaaggccaaa gcccctttga ccccgctcac 650 aagcatacgg ctgtcttggt ggatgggatg ctctattctg gtactatgaa 700 caacttcctg ggcagtgagc ccatcctgat gcgcacactg ggatcccagc 750 ctgtcctcaa gaccgacaac ttcctccgct ggctgcatca tgacgcctcc 800 tttgtggcag ccatcccttc gacccaggtc gtctacttct tcttcgagga 850 gacagccagc gagtttgact tctttgagag gctccacaca tcgcgggtgg 900 ctagagtctg caagaatgac gtgggcggcg aaaagctgct gcagaagaag 950 tggaccacct tcctgaaggc ccagctgctc tgcacccagc cggggcagct 1000 gcccttcaac gtcatccgcc acgcggtcct gctccccgcc gattctccca 1050 cagetececa catetacgea gtetteacet eccagtggea ggttggeggg 1100 accaggaget etgeggtttg tgeettetet etettggaca ttgaacgtgt 1150 ctttaagggg aaatacaaag agttgaacaa agaaacttca cgctggacta 1200 cttatagggg ccctgagacc aacccccggc caggcagttg ctcagtgggc 1250 ccctcctctg ataaggccct gaccttcatg aaggaccatt tcctgatgga 1300 tgagcaagtg gtggggacgc ccctgctggt gaaatctggc gtggagtata 1350 cacggcttgc agtggagaca gcccagggcc ttgatgggca cagccatctt 1400 gtcatgtacc tgggaaccac cacagggtcg ctccacaagg ctgtggtaag 1450 tggggacagc agtgctcatc tggtggaaga gattcagctg ttccctgacc 1500 ctgaacctgt tcgcaacctg cagctggccc ccacccaggg tgcagtgttt 1550 gtaggcttct caggaggtgt ctggagggtg ccccgagcca actgtagtgt 1600 ctatgagage tgtgtggact gtgtccttgc ccgggacccc cactgtgcct 1650 gggaccetga gtecegaace tgttgeetee tgtetgeece caacetgaac 1700 tcctggaagc aggacatgga gcgggggaac ccagagtggg catgtgccag 1750 tggccccatg agcaggagcc ttcggcctca gagccgcccg caaatcatta 1800 aagaagteet ggetgteece aacteeatee tggageteee etgeeceeae 1850 ctgtcagcct tggcctctta ttattggagt catggcccag cagcagtccc 1900 agaagcetet tecaetgtet acaatggete eetettgetg atagtgeagg 1950 atggagttgg gggtctctac cagtgctggg caactgagaa tggcttttca 2000 taccetqtga tetectactg ggtggacage caggaccaga ceetggeeet 2050 ggatcctgaa ctggcaggca tcccccggga gcatgtgaag gtcccgttga 2100 ccaqqqtcaq tggtggggcc gccctggctg cccagcagtc ctactggccc 2150 cactttqtca ctqtcactqt cctctttqcc ttagtqcttt caggagccct 2200 catcatcctc gtggcctccc cattgagagc actccgggct cggggcaagg 2250 ttcagggctg tgagaccctg cgccctgggg agaaggcccc gttaagcaga 2300 gagcaacacc tccagtctcc caaggaatgc aggacctctg ccagtgatgt 2350 ggacgctgac aacaactgcc taggcactga ggtagcttaa actctaggca 2400 caggccgggg ctgcggtgca ggcacctggc catgctggct gggcggccca 2450 agcacagece tgactaggat gacageagea caaaagacea cetttetece 2500 ctgagaggag cttctgctac tctgcatcac tgatgacact cagcagggtg 2550 atgcacagca gtctgcctcc cctatgggac tcccttctac caagcacatg 2600 agetetetaa cagggtgggg getaceeeca gaeetgetee tacaetgata 2650 ttgaagaacc tggagaggat cetteagtte tggceattee agggaecete 2700 cagaaacaca gtgtttcaag agaccctaaa aaacctgcct gtcccaggac 2750 cctatggtaa tgaacaccaa acatctaaac aatcatatgc taacatgcca 2800 ctcctggaaa ctccactctg aagctgccgc tttggacacc aacactccct 2850 tctcccaqqq tcatgcaqqq atctgctccc tcctgcttcc cttaccagtc 2900 gtgcaccgct gactcccagg aagtctttcc tgaagtctga ccacctttct 2950 tettgettea gttggggeag actetgatee ettetgeeet ggeagaatgg 3000 caggggtaat ctgagccttc ttcactcctt taccctagct gaccccttca 3050 cctctcccc tccctttcc tttgttttgg gattcagaaa actgcttgtc 3100 agagactgtt tatttttat taaaaatata aggcttaaaa aaa 3143

<210> 277

<211> 761

<212> PRT

<213> Homo sapiens

<400> 277

Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Ala Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe Asp Thr Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu Cys Ala Phe Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly Thr Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser 185 195 Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu Met Arg 200 205 Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu Arg 215 220 225 Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp 245 250 255 Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys 260 265 Asn Asp Val Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr 275 285 Phe Leu Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro

				290					295					300
Phe A	Asn	Val	Ile	Arg 305	His	Ala	Val	Leu	Leu 310	Pro	Ala	Asp	Ser	Pro 315
Thr A	Ala	Pro	His	Ile 320	Tyr	Ala	Val	Phe	Thr 325	Ser	Gln	Trp	Gln	Val 330
Gly G	3ly	Thr	Arg	Ser 335	Ser	Ala	Val	Cys	Ala 340	Phe	Ser	Leu	Leu	Asp 345
Ile 0	3lu	Arg	Val	Phe 350	Lys	Gly	Lys	Tyr	Lys 355	Glu	Leu	Asn	Lys	Glu 360
Thr S	Ser	Arg	Trp	Thr 365	Thr	Tyr	Arg	Gly	Pro 370	Glu	Thr	Asn	Pro	Arg 375
Pro G	Sly	Ser	Суѕ	Ser 380	Val	Gly	Pro	Ser	Ser 385	Asp	Lys	Ala	Leu	Thr 390
Phe N	1et	Lys	Asp	His 395	Phe	Leu	Met	Asp	Glu 400	Gln	Val	Val	Gly	Thr 405
Pro I	Leu	Leu	Val	Lys 410	Ser	Gly	Val	Glu	Tyr 415	Thr	Arg	Leu	Ala	Val 420
Glu 1	Thr	Ala	Gln	Gly 425	Leu	Asp	Gly	His	Ser 430	His	Leu	Val	Met	Tyr 435
Leu (Gly	Thr	Thr	Thr 440	Gly	Ser	Leu	His	Lys 445	Ala	Val	Val	Ser	Gly 450
Asp S	Ser	Ser	Ala	His 455	Leu	Val	Glu	Glu	Ile 460	Gln	Leu	Phe	Pro	Asp 465
Pro 0	Glu	Pro	Val	Arg 470	Asn	Leu	Gln	Leu	Ala 475	Pro	Thr	Gln	Gly	Ala 480
Val E	?he	Val	Gly	Phe 485	Ser	Gly	Gly	Val	Trp 490	Arg	Val	Pro	Arg	Ala 495
Asn (Cys	Ser	Val	Tyr 500	Glu	Ser	Cys	Val	Asp 505	Суз	Val	Leu	Ala	Arg 510
Asp I	?ro	His	Cys	Ala 515	Trp	Asp	Pro	Glu	Ser 520	Arg	Thr	Cys	Cys	Leu 525
Leu S	Ser	Ala	Pro	Asn 530	Leu	Asn	Ser	Trp	Lys 535	Gln	Asp	Met	Glu	Arg 540
Gly F	Asn	Pro	Glu	Trp 545	Ala	Cys	Ala	Ser	Gly 550	Pro	Met	Ser	Arg	Ser 555
Leu A	\rg	Pro	Gln	Ser 560	Arg	Pro	Gln	Ile	Ile 565	Lys	Glu	Val	Leu	Ala 570
Val E	?ro	Asn	Ser	Ile 575	Leu	Glu	Leu	Pro	Cys 580	Pro	His	Leu	Ser	Ala 585

<223> Synthetic construct.

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Leu Ala Ser Tyr Tyr Trp Ser His Gly Pro Ala Ala Val Pro Glu
Ala Ser Ser Thr Val Tyr Asn Gly Ser Leu Leu Leu Ile Val Gln
Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly
Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln
                                     640
                635
Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His
                                     655
                 650
Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala
                                     670
Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Leu
                                                         690
Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser
Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His
Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp
                                                         750
Ala Asp Asn Asn Cys Leu Gly Thr Glu Val Ala
<210> 278
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 278
ctgctggtga aatctggcgt ggag 24
<210> 279
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
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<400> 279
gtctggtcct ggctgtccac ccag 24
<210> 280
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 280
catcttgtca tgtacctggg aaccaccaca gggtcgctcc acaag 45
<210> 281
<211> 2320
<212> DNA
<213> Homo sapiens
<400> 281
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 cttccgtaga agtgagcatg gctgggcagc gagtgcttct tctagtgggc 100
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 atctacagta ggtggaagcc attatctact gatggaccgg gtttctcaga 200
 ttcttcaaga tcacggtcat aatgtcacca tgcttaacca caaaagaggt 250
 ccttttatgc cagattttaa aaaggaagaa aaatcatatc aagttatcag 300
 ttggcttgca cctgaagatc atcaaagaga atttaaaaag agttttgatt 350
 tctttctgga agaaacttta ggtggcagag gaaaatttga aaacttatta 400
 aatgttctag aatacttggc gttgcagtgc agtcattttt taaatagaaa 450
 ggatatcatg gattccttaa agaatgagaa cttcgacatg gtgatagttg 500
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 aatccccttg tcttatgttc cagtattccg ttccttgctg actgatcaca 650
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 aggaggcaac agcacatgca gtctacattt gacaacacca tcaaggaaca 750
 tttcacagaa ggctctaggc cagttttgtc tcatcttcta ctgaaagcag 800
 agttgtggtt cattaactct gactttgcct ttgattttgc tcgacctctg 850
 cttcccaaca ctgtttatgt tggaggcttg atggaaaaac ctattaaacc 900
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<210> 282
<211> 523
<212> PRT
<213> Homo sapiens
<400> 282
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 Val Gly Gly Ser His Tyr Leu Leu Met Asp Arg Val Ser Gln Ile
 Leu Gln Asp His Gly His Asn Val Thr Met Leu Asn His Lys Arg
 Gly Pro Phe Met Pro Asp Phe Lys Lys Glu Glu Lys Ser Tyr Gln
 Val Ile Ser Trp Leu Ala Pro Glu Asp His Gln Arg Glu Phe Lys
 Lys Ser Phe Asp Phe Phe Leu Glu Glu Thr Leu Gly Gly Arg Gly
                                                          105
                  95
 Lys Phe Glu Asn Leu Leu Asn Val Leu Glu Tyr Leu Ala Leu Gln
                                      115
                 110
 Cys Ser His Phe Leu Asn Arg Lys Asp Ile Met Asp Ser Leu Lys
                                                          135
                 125
 Asn Glu Asn Phe Asp Met Val Ile Val Glu Thr Phe Asp Tyr Cys
 Pro Phe Leu Ile Ala Glu Lys Leu Gly Lys Pro Phe Val Ala Ile
                  155
 Leu Ser Thr Ser Phe Gly Ser Leu Glu Phe Gly Leu Pro Ile Pro
                  170
 Leu Ser Tyr Val Pro Val Phe Arg Ser Leu Leu Thr Asp His Met
 Asp Phe Trp Gly Arg Val Lys Asn Phe Leu Met Phe Phe Ser Phe
 Cys Arg Arg Gln Gln His Met Gln Ser Thr Phe Asp Asn Thr Ile
                  215
 Lys Glu His Phe Thr Glu Gly Ser Arg Pro Val Leu Ser His Leu
 Leu Leu Lys Ala Glu Leu Trp Phe Ile Asn Ser Asp Phe Ala Phe
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245

Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly

				260					265					270
Leu	Met	Glu	Lys	Pro 275	Ile	Lys	Pro	Val	Pro 280	Gln	Asp	Leu	Glu	Asn 285
Phe	Ile	Ala	Lys	Phe 290	Gly	Asp	Ser	Gly	Phe 295	Val	Leu	Val	Thr	Leu 300
Gly	Ser	Met	Val	Asn 305	Thr	Cys	Gln	Asn	Pro 310	Glu	Ile	Phe	Lys	Glu 315
Met	Asn	Asn	Ala	Phe 320	Ala	His	Leu	Pro	Gln 325	Gly	Val	Ile	Trp	Lys 330
Суѕ	Gln	Cys	Ser	His 335	Trp	Pro	Lys	Asp	Val 340	His	Leu	Ala	Ala	Asn 345
Val	Lys	Ile	Val	Asp 350	Trp	Leu	Pro	Gln	Ser 355	Asp	Leu	Leu	Ala	His 360
Pro	Ser	Ile	Arg	Leu 365	Phe	Val	Thr	His	Gly 370	Gly	Gln	Asn	Ser	Ile 375
Met	Glu	Ala	Ile	Gln 380	His	Gly	Val	Pro	Met 385	Val	Gly	Ile	Pro	Leu 390
Phe	Gly	Asp	Gln	Pro 395	Glu	Asn	Met	Val	Arg 400	Val	Glu	Ala	Lys	Lys 405
Phe	Gly	Val	Ser	Ile 410	Gln	Leu	Lys	Lys	Leu 415	Lys	Ala	Glu	Thr	Leu 420
Ala	Leu	Lys	Met	Lys 425	Gln	Ile	Met	Glu	Asp 430	Lys	Arg	Tyr	Lys	Ser 435
Ala	Ala	Val	Ala	Ala 440	Ser	Val	Ile	Leu	Arg 445	Ser	His	Pro	Leu	Ser 450
Pro	Thr	Gln	Arg	Leu 455	Val	Gly	Trp	Ile	Asp 460		Val	Leu	Gln	Thr 465
Gly	Gly	Ala	Thr	His 470		Lys	Pro	Tyr	Val 475	Phe	Gln	Gln	Pro	Trp 480
His	Glu	Gln	Tyr	Leu 485		Asp	Val	Phe	Val 490	Phe	Leu	Leu	Gly	Leu 495
Thr	Leu	Gly	Thr	Leu 500		Leu	Cys	Gly	Lys 505	Leu	Leu	Gly	Met	Ala 510
Val	Trp	Trp	Leu	Arg 515		Ala	Arg	Lys	Val 520	Lys	Glu	Thr	•	
		_												

<210> 283 <211> 24 <212> DNA <213> Artificial

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<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 283
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<210> 284
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 284
 tcaggctggt ctccaaagag aggg 24
<210> 285
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
<223> Synthetic construct.
<400> 285
 cccaaagatg tccacctggc tgcaaatgtg aaaattgtgg actgg 45
<210> 286
<211> 2340
<212> DNA
<213> Homo sapiens
<400> 286
 gggctgttga tttgtggggg attttgaaga gaggaggaat aggaggaagg 50
 ggttgagggg ctgcctctgg catatgcaca cactcacaca ttctgtcaca 100
 cccgtcacac acacatacca tgttctccat cccccaggt ccagccctca 150
 gtgctgtccc atccagcagg gctaccctga agctctggct gcagccctcc 200
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 gttcagcgag cctagagagg gcagactatc agggtgccgg cggtgagaat 400
 ccagggagag gagcggaaac agaagagggg cagaagaccg gggcacttgt 450
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<210> 287 <211> 205

<212> PRT

<213> Homo sapiens

<400> 287

Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser
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Pro Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly 20 25 30

Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys 35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly 50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala 65 70 75

Ala Val Arg Ser His His His Glu Pro Ala Gly Glu Thr Gly Asn 80 85 90

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu 95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val 110 115 120

Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn 125 130 135

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val

Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala 155 160 165

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

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180
                                     175
                 170
Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp Lys Tyr Ser
                 185
                                     190
Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu
                 200
<210> 288
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<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 288
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<210> 289
<211> 27
<212> DNA
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<220>
<221> Artificial Sequence
<222> 1-27
<223> Synthetic construct.
<400> 289
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<210> 290
<211> 42
<212> DNA
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<221> Artificial Sequence
<222> 1-42
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<400> 290
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<210> 291
<211> 1570
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<213> Homo sapiens
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: ::±

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) idp

1 112

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- <222> 1-50
- <223> Synthetic construct.
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- <211> 3060
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- <213> Homo sapiens
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<210> 297 <211> 368

<212> PRT

<213> Homo sapiens

<400> 297

Met Gly Leu Leu Ala Phe Leu Lys Thr Gln Phe Val Leu His Leu 1 5 10 15

Leu Val Gly Phe Val Phe Val Val Ser Gly Leu Val Ile Asn Phe 20 25 30

Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu 35 40 45

Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln
50 55 60

Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu 65 70 75

Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala 80 85 90

Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly

Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val

Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr 125 130 135

Trp Tyr Phe Leu Glu Ile Val Phe Cys Lys Arg Lys Trp Glu Glu 140 145

Asp Arg Asp Thr Val Val Glu Gly Leu Arg Arg Leu Ser Asp Tyr 155 160 165

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Pro Glu Tyr Met Trp Phe Leu Leu Tyr Cys Glu Gly Thr Arg Phe
Thr Glu Thr Lys His Arg Val Ser Met Glu Val Ala Ala Ala Lys
Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly
Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val
Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu
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                                    235
Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val
                                    250
Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala
Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln
Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys
Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala
Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe
Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val
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- <211> 24
- <212> DNA
- <213> Artificial
- <220>
- <221> Artificial Sequence
- <222> 1-24
- <223> Synthetic construct.
- <400> 298
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Glu Pro Gly Arg Trp Arg Leu Gln 365

- <210> 299
- <211> 21
- <212> DNA

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<223> Synthetic construct.
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<213> Homo sapiens
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 gttgtatggg ttgtgtctgt tccccagaat gcccagctct gagctgcgtg 750
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agggtcaagg gcattgctgt gcctgccagg tatagtgcct acatgtggtg 800 ggtgctcatg ttttagagac taaatggagg aggagatgag gaaaagattg 850 aaatctctca gttcaccaga tggtgtaggg cccagcattg taaattcaca 900 cgttgactgt gcttgtgaat tatctgggga tgcaggtcct gattcagtag 950 gcccaggttg ggcatctcta acaaactccc acgtgatgct gatgctggtc 1000 ctatgaacta tactaaatag taagaatcta tggagccagg ctgggcatgg 1050 tggctcacac ctatgatccc agcactttgg gaggctgagg caggctgatc 1100 acctggagtc aggatttcaa gactagcctg gccaacatgg tggaacccca 1150 tctgtactaa aaatacacaa attagctggg catggtggca catgcctgta 1200 gtcccagcta cttgggaggc tgaagcaaga gaatcgcttg aacctgggag 1250 gcggaggttg cagtgagccg agatcaggcc actgtattcc aaccagggtg 1300 acagagtgag actctatgtc caaaaaaaaa aaaa 1334

<210> 302

<211> 143

<212> PRT

<213> Homo sapiens

<400> 302

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His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe $20 \hspace{1cm} 25 \hspace{1cm} 30$

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly 35 40 45

Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val
50 55 60

Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp
65 70 75

Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr 80 85 90

Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln $95 \hspace{1cm} 100 \hspace{1cm} 105$

Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu 110 115 120

Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr 125 130 135

Cys Gly Val Leu Leu Ser Phe Leu

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<213> Homo sapiens

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<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

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Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu 20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly 35 40 45

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly 50 55

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro 65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

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<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

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Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe \$20\$

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys
35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser 50 55 60

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Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu
Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln
Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys
                                    100
Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu
                                    115
Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val
                125
Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala
Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu
Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp
                170
Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr
                185
Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val
Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly
Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg
Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly
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Leu Thr Leu Ala Phe Lys Ile
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<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

260

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Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala 125 130 135

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Arg Gly	Pro	Pro	Ser 395	Ser	Ser	Asp	Ser	Glu 400	Pro	Glu	Ala	Glu	Leu 405
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<211> 370

<212> PRT

<213> Homo sapiens

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				305					310					315
Pro	Thr	Ser	Val	Leu 320	Asp	Gly	Pro	Pro	Ala 325	Pro	Val	Leu	Pro	Gly 330
Asp	Lys	Ala	Leu	Asp 335	Phe	Pro	Gly	Phe	Leu 340	Asp	Met	Met	Ala	Pro 345
Arg	Leu	Arg	Pro	Met 350	Arg	Pro	Pro	Pro	Pro 355	Pro	Pro	Ala	Lys	Ala 360
Pro	Aen	Pro	Glv	Hie	Dro	7 en	Dro	T.011	Th r					

Pro Asp Pro Gly His Pro Asp Pro Leu Thr 365 370

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<211> 4407

<212> DNA

<213> Homo sapiens

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Trp Leu Trp Gly Ala Gln Pro Cys Leu Leu Pro Ile Val Pro 20 25 30

Leu Ser Trp Leu Val Trp Leu Leu Leu Leu Leu Leu Ala Ser Leu 35 40 45

Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu 50 55 60

Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser 65 70 75

Gly Ala Pro Ala Arg Leu Cys Arg Leu Gln Ala Phe Gly Glu 80 85 90

Thr Leu Leu Glu Leu Glu Glu Asp Ser Gly Val Glu 95 100 105

Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly
110 115 120

Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp 125 130 135

Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu

				140					145					150
Gly	Val	Leu	Gln	Tyr 155	Arg	Gly	Ala	Glu	Leu 160	His	Leu	Gln	Pro	Leu 165
Glu	Gly	Gly	Thr	Pro 170	Asn	Ser	Ala	Gly	Gly 175	Pro	Gly	Ala	His	Ile 180
Leu	Arg	Arg	Lys	Ser 185	Pro	Ala	Ser	Gly	Gln 190	Gly	Pro	Met	Cys	Asn 195
Val	Lys	Ala	Pro	Leu 200	Gly	Ser	Pro	Ser	Pro 205	Arg	Pro	Arg	Arg	Ala 210
Lys	Arg	Phe	Ala	Ser 215	Leu	Ser	Arg	Phe	Val 220	Glu	Thr	Leu	Val	Val 225
Ala	Asp	Asp	Lys	Met 230	Ala	Ala	Phe	His	Gly 235	Ala	Gly	Leu	Lys	Arg 240
Tyr	Leu	Leu	Thr	Val 245	Met	Ala	Ala	Ala	Ala 250	Lys	Ala	Phe	Lys	His 255
Pro	Ser	Ile	Arg	Asn 260	Pro	Val	Ser	Leu	Val 265	Val	Thr	Arg	Leu	Val 270
Ile	Leu	Gly	Ser	Gly 275	Glu	Glu	Gly	Pro	Gln 280	Val	Gly	Pro	Ser	Ala 285
Ala	Gln	Thr	Leu	Arg 290	Ser	Phe	Cys	Ala	Trp 295	Gln	Arg	Gly	Leu	Asn 300
Thr	Pro	Glu	Asp	Ser 305	Gly	Pro	Asp	His	Phe 310	Asp	Thr	Ala	Ile	Leu 315
Phe	Thr	Arg	Gln	Asp 320	Leu	Cys	Gly	Val	Ser 325	Thr	Cys	Asp	Thr	Leu 330
Gly	Met	Ala	Asp	Val 335	Gly	Thr	Val	Cys	Asp 340	Pro	Ala	Arg	Ser	Cys 345
Ala	Ile	Val	Glu	Asp 350	Asp	Gly	Leu	Gln	Ser 355	Ala	Phe	Thr	Ala	Ala 360
His	Glu	Leu	Gly	His 365	Val	Phe	Asn	Met	Leu 370	His	Asp	Asn	Ser	Lys 375
Pro	Cys	Ile	Ser	Leu 380	Asn	Gly	Pro	Leu	Ser 385	Thr	Ser	Arg	His	Val 390
Met	Ala	Pro	Val	Met 395	Ala	His	Val	Asp	Pro 400	Glu	Glu	Pro	Trp	Ser 405
Pro	Cys	Ser	Ala	Arg 410	Phe	Ile	Thr	Asp	Phe 415	Leu	Asp	Asn	Gly	Tyr 420
Gly	His	Cys	Leu	Leu 425	Asp	Lys	Pro	Glu	Ala 430	Pro	Leu	His	Leu	Pro 435

Val Thr Phe Pro Gly Lys Asp Tyr Asp Ala Asp Arg Gln Cys Gln Leu Thr Phe Gly Pro Asp Ser Arg His Cys Pro Gln Leu Pro Pro Pro Cys Ala Ala Leu Trp Cys Ser Gly His Leu Asn Gly His Ala 475 Met Cys Gln Thr Lys His Ser Pro Trp Ala Asp Gly Thr Pro Cys 490 Gly Pro Ala Gln Ala Cys Met Gly Gly Arg Cys Leu His Met Asp 505 Gln Leu Gln Asp Phe Asn Ile Pro Gln Ala Gly Gly Trp Gly Pro Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val 535 Gln Phe Ser Ser Arg Asp Cys Thr Arg Pro Val Pro Arg Asn Gly 550 Gly Lys Tyr Cys Glu Gly Arg Arg Thr Arg Phe Arg Ser Cys Asn 565 Thr Glu Asp Cys Pro Thr Gly Ser Ala Leu Thr Phe Arg Glu Glu 580 Gln Cys Ala Ala Tyr Asn His Arg Thr Asp Leu Phe Lys Ser Phe Pro Gly Pro Met Asp Trp Val Pro Arg Tyr Thr Gly Val Ala Pro Gln Asp Gln Cys Lys Leu Thr Cys Gln Ala Arg Ala Leu Gly Tyr 620 Tyr Tyr Val Leu Glu Pro Arg Val Val Asp Gly Thr Pro Cys Ser 635 640 Pro Asp Ser Ser Val Cys Val Gln Gly Arg Cys Ile His Ala 650 Gly Cys Asp Arg Ile Ile Gly Ser Lys Lys Phe Asp Lys Cys Met Val Cys Gly Gly Asp Gly Ser Gly Cys Ser Lys Gln Ser Gly Ser Phe Arg Lys Phe Arg Tyr Gly Tyr Asn Asn Val Val Thr Ile Pro Ala Gly Ala Thr His Ile Leu Val Arg Gln Gln Gly Asn Pro 710 Gly His Arg Ser Ile Tyr Leu Ala Leu Lys Leu Pro Asp Gly Ser

<223> Synthetic construct.

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Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly 285

Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys 300

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<211> 239

<212> PRT

<213> Homo sapiens

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Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp
20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser 35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly
50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln $65 \,$ $70 \,$ $75 \,$

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu 80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr 95 100 105

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu 110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala 125 130 135

Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro 140 145 150

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr 155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu 170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln
185 190 190

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala 200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val 215 220 225 Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val

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<211> 2121

<212> DNA

<213> Homo sapiens

<400> 325

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<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

Met Ser Thr Thr Cys Gln Val Val Ala Phe Leu Leu Ser Ile
1 5 10 15

Leu Gly Leu Ala Gly Cys Ile Ala Ala Thr Gly Met Asp Met Trp $20 \\ 25 \\ 30$

Ser Thr Gln Asp Leu Tyr Asp Asn Pro Val Thr Ser Val Phe Gln 35 40 45

Tyr Glu Gly Leu Trp Arg Ser Cys Val Arg Gln Ser Ser Gly Phe 50 55 60

Thr Glu Cys Arg Pro Tyr Phe Thr Ile Leu Gly Leu Pro Ala Met $65 \hspace{1cm} 70 \hspace{1cm} 75$

Leu Gln Ala Val Arg Ala Leu Met Ile Val Gly Ile Val Leu Gly

90 80 85 Ala Ile Gly Leu Leu Val Ser Ile Phe Ala Leu Lys Cys Ile Arg 100 Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr 115 Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly 125 130 Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val 165 Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val 170 Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala 185 Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser 200 Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe 215 Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile 235 Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro 255 250 245 Ser Lys His Asp Tyr Val 260

<210> 327 <211> 2010 <212> DNA

<213> Homo sapiens

<400> 327
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 gtagcagttc cggagtccag ctggctaaaa ctcatcccag aggataatgg 100
 caacccatgc cttagaaatc gctgggctgt ttcttggtgg tgttggaatg 150
 gtgggcacag tggctgtcac tgtcatgcct cagtggagag tgtcggcctt 200
 cattgaaaac aacatcgtgg tttttgaaaa cttctgggaa ggactgtgga 250
 tgaattgcgt gaggcaggct aacatcagga tgcagtgcaa aatctatgat 300
 tccctgctgg ctctttctcc ggacctacag gcagccagag gactgatgtg 350

tgctgcttcc gtgatgtcct tcttggcttt catgatggcc atccttggca 400 tgaaatgcac caggtgcacg ggggacaatg agaaggtgaa ggctcacatt 450 ctgctgacgg ctggaatcat cttcatcatc acgggcatgg tggtgctcat 500 ccctgtgagc tgggttgcca atgccatcat cagagatttc tataactcaa 550 tagtgaatgt tgcccaaaaa cgtgagcttg gagaagctct ctacttagga 600 tggaccacgg cactggtgct gattgttgga ggagctctgt tctgctgcgt 650 tttttgttgc aacgaaaaga gcagtagcta cagatactcg ataccttccc 700 atcgcacaac ccaaaaaagt tatcacaccg gaaagaagtc accgagcgtc 750 tactccagaa gtcagtatgt gtagttgtgt atgttttttt aactttacta 800 taaagccatg caaatgacaa aaatctatat tactttctca aaatggaccc 850 caaagaaact ttgatttact gttcttaact gcctaatctt aattacagga 900 actgtgcatc agctatttat gattctataa gctatttcag cagaatgaga 950 tattaaaccc aatgctttga ttgttctaga aagtatagta atttgttttc 1000 taaggtggtt caagcatcta ctctttttat catttacttc aaaatgacat 1050 tgctaaagac tgcattattt tactactgta atttctccac gacatagcat 1100 tatgtacata gatgagtgta acatttatat ctcacataga gacatgctta 1150 tatggtttta tttaaaatga aatgccagtc cattacactg aataaataga 1200 actcaactat tgcttttcag ggaaatcatg gatagggttg aagaaggtta 1250 ctattaattg tttaaaaaca gcttagggat taatgtcctc catttataat 1300 gaagattaaa atgaaggctt taatcagcat tgtaaaggaa attgaatggc 1350 tttctgatat gctgtttttt agcctaggag ttagaaatcc taacttcttt 1400 atcctcttct cccagaggct ttttttttct tgtgtattaa attaacattt 1450 ttaaaacgca gatattttgt caaggggctt tgcattcaaa ctgcttttcc 1500 agggctatac tcagaagaaa gataaaagtg tgatctaaga aaaagtgatg 1550 gttttaggaa agtgaaaata tttttgtttt tgtatttgaa gaagaatgat 1600 gcattttgac aagaaatcat atatgtatgg atatatttta ataagtattt 1650 gagtacagac tttgaggttt catcaatata aataaaagag cagaaaaata 1700 tgtcttggtt ttcatttgct taccaaaaaa acaacaacaa aaaaagttgt 1750 cctttgagaa cttcacctgc tcctatgtgg gtacctgagt caaaattgtc 1800 attttgttc tgtgaaaaat aaatttcctt cttgtaccat ttctgtttag 1850 ttttactaaa atctgtaaat actgtattt tctgtttatt ccaaatttga 1900 tgaaactgac aatccaattt gaaagtttgt gtcgacgtct gtctagctta 1950 aatgaatgtg ttctatttgc tttatacatt tatattaata aattgtacat 2000 ttttctaatt 2010

<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met Ala Thr His Ala Leu Glu Ile Ala Gly Leu Phe Leu Gly Gly 1 5 10 15

Val Gly Met Val Gly Thr Val Ala Val Thr Val Met Pro Gln Trp 20 25 30

Arg Val Ser Ala Phe Ile Glu Asn Asn Ile Val Val Phe Glu Asn 35 40 45

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile 50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro 65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met 80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr 95 100 105

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu 110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile 125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn 140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu 155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala 170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr 185 190 195

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His 200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val 215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

<400> 329

tcgccatggc ctctgccgga atgcagatcc tgggagtcgt cctgacactg 50 ctgggctggg tgaatggcct ggtctcctgt gccctgccca tgtggaaggt 100 gaccgctttc atcggcaaca gcatcgtggt ggcccaggtg gtgtgggagg 150 gcctgtggat gtcctgcgtg gtgcagagca ccggccagat gcagtgcaag 200 gtgtacgact cactgctggc gctgccacag gacctgcagg ctgcacgtgc 250 cctctgtgtc atcgccctcc ttgtggccct gttcggcttg ctggtctacc 300 ttgctggggc caagtgtacc acctgtgtgg aggagaagga ttccaaggcc 350 cgcctggtgc tcacctctgg gattgtcttt gtcatctcag gggtcctgac 400 gctaatcccc gtgtgctgga cggcgcatgc catcatccgg gacttctata 450 acccctggt ggctgaggcc caaaagcggg agctgggggc ctccctctac 500 ttgggctggg cggcctcagg ccttttgttg ctgggtgggg ggttgctgtg 550 ctgcacttgc ccctcggggg ggtcccaggg ccccagccat tacatggccc 600 gctactcaac atctgcccct gccatctctc ggggggccctc tgagtaccct 650 accaagaatt acgtctgacg tggaggggaa tgggggctcc gctggcgcta 700 gagccatcca gaagtggcag tgcccaacag ctttgggatg ggttcgtacc 750 ttttgtttct gcctcctgct atttttcttt tgactgagga tatttaaaat 800 tcatttgaaa actgagccaa ggtgttgact cagactctca cttaggctct 850 gctgtttctc acccttggat gatggagcca aagaggggat gctttgagat 900 tctggatctt gacatgccca tcttagaagc cagtcaagct atggaactaa 950 tgcggaggct gcttgctgtg ctggctttgc aacaagacag actgtcccca 1000 agagtteetg etgetgetgg gggetggget teeetagatg teaetggaca 1050 gctgccccc atcctactca ggtctctgga gctcctctct tcacccctgg 1100 aaaaacaaat catctgttaa caaaggactg cccacctccg gaacttctga 1150 cctctgtttc ctccgtcctg ataagacgtc cacccccag ggccaggtcc 1200 cagctatgta gacccccgcc cccacctcca acactgcacc cttctgccct 1250 geoecceteg teteaccee tttacactea catttttate aaataaagea 1300 tgttttgtta gtgca 1315

<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu 1 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp 20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val 35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly $50 \ \ 55 \ \ \ 60$

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln
65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val $80 \\ 85 \\ 90$

Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr 95 100 105

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr 110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro 125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro 140 145 150

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr 155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Gly Gly Gly Leu 170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His
185 190 195

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly 200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val 215 220

<210> 331

<211> 1160

<212> DNA

<213> Homo sapiens

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<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

1 5 10 15

Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg
20 25 30

Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu 35 40 45

Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn $50 \,\,$ 55 $\,$ 60

Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe 657075

Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala 80 85 90

Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly 95 100 105

Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser 110 115 120

Ala Ala Val Leu Phe Ile Gly Gly Gly Leu Leu Cys Gly Phe Cys 125 130 135

Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly 140 145 150

Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu 155 160 165

Ser Lys Thr Ser Thr Ser Tyr Val

<210> 333

<211> 535

<212> DNA

<213> Homo sapiens

<400> 333

agtgacaatc tcagagcagc ttctacacca cagccatttc cagcatgaag 50 atcactgggg gtctccttct gctctgtaca gtggtctatt tctgtagcag 100 ctcagaagct gctagtctgt ctccaaaaaa agtggactgc agcatttaca 150 agaagtatcc agtggtggcc atcccctgcc ccatcacata cctaccagtt 200 tgtggttctg actacatcac ctatgggaat gaatgtcact tgtgtaccga 250 gagcttgaaa agtaatggaa gagttcagtt tcttcacgat ggaagttgct 300 aaattctcca tggacataga gagaaaggaa tgatattctc atcatcatct 350 tcatcatccc aggctctgac tgagtttctt tcagttttac tgatgtctg 400 ggtgggggac agagccagat tcagagtaat cttgactgaa tggagaaagt 450

ttctgtgcta cccctacaaa cccatgcctc actgacagac cagcattttt 500 tttttaacac gtcaataaaa aaataatctc ccaga 535

<210> 334

<211> 85

<212> PRT

<213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Cys Thr Val Val Tyr
1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val 20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys 35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr 50 55 60

Arg Val Gln Phe Leu His Asp Gly Ser Cys
80
85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335

cccgcgcccg gttctccctc gcagcacctc gaagtgcgcc cctcgccctc 50 ctgctcgcgc cccgcgcaa tggctgcctc ccccgcgcgg cctgctgtcc 100 tggccctgac cgggctggcg ctgctcctgc tcctgtgctg gggcccaggt 150 ggcataagtg gaaataaact caagctgatg cttcaaaaac gagaagcacc 200 tgttccaact aagactaaag tggccgttga tgagaataaa gccaaagaat 250 tccttggcag cctgaagcgc cagaagcggc agctgtggga ccggactcgg 300 cccgaggtgc agcagtggta ccagcagttt ctctacatgg gctttgatga 350 agcgaaatt gaagatgaca tcacctattg gcttaacaga gatcgaaatg 400 gacatgaata ctatggcgat tactaccaac gtcactatga tgaagactct 450 gcaattggtc cccggagccc ctacggcttt aggcatggag ccagcgtcaa 500 ctacgatgac tactaaccat gacttgccac acgctgtaca agaagcaaat 550 agcgattctc ttcatgtatc tcctaatgcc ttacactact tggtttctga 600

tttgctctat ttcagcagat cttttctacc tactttgtgt gatcaaaaaa 650 gaagagttaa aacaacacat gtaaatgcct tttgatattt catgggaatg 700 cctctcattt aaaaatagaa ataaagcatt ttgttaaaaa ga 742

<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly
1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser 20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val 35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu . 50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg
65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met 80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu 95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln 110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr 125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr 140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

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agccgggcgc tcggtagcgc ggcgggcaag gcaggcgcca tgaccctgat 100
tgaaggggtg ggtgatgagg tgaccgtcct tttctcggtg cttgcctgcc 150
ttctggtgct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200

agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300 ccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350 gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400 qctacqqctq aaattcctca atqattcaqa qcaqqtqqcc aqqqcctggc 450 cccacqacac cattqqctcc ttqaaaaqqa cccaqtttcc cqqccqqqaa 500 cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacaccca 550 gaccetggge ageetteace teecteecaa etgegttete caetgecaeg 600 tgtccacgag agtcggtccc ccaaatcccc cctgcccgcc ggggtccgag 650 cccggcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700 cctgctgttg ctgctgctct ggtactgcca gatccagtac cggcccttct 750 ttcccctgac cgccactctg ggcctggccg gcttcaccct gctcctcagt 800 ctcctqqcct ttqccatqta ccqcccqtag tgcctccqcg ggcgcttggc 850 agegtegeeg geceeteegg acettgetee eegegeegeg gegggagetg 900 ctgcctgccc aggcccgcct ctccggcctg cctcttcccg ctgccctgga 950 gcccagccct gcgccgcaga ggactcccgg gactggcgga ggccccgccc 1000 tgcqaccgcc qqqqctcqqq qccacctccc ggggctgctg aacctcagcc 1050 egeactggga gtgggeteet eggggteggg catetgetgt egetgeeteg 1100 gccccgggca gagccgggcc gcccggggg cccgtcttag tgttctgccg 1150 gaggacccag ccgcctccaa tccctgacag ctccttgggc tgagttgggg 1200 acgccaggtc ggtgggaggc tggtgaaggg gagcggggag gggcagagga 1250 gttccccgga acccgtgcag attaaagtaa ctgtgaagtt ttaaaaaaaa 1300 aaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe
1 5 10 15

Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser 20 25 30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly 35 40 45

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Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp
                                     55
Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg
His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr
Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu
Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp
Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly
Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly
Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys
Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro
                170
Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile
Gly Ser Leu Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Leu
Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Phe Pro Leu Thr Ala
Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Leu Ser Leu Leu Ala
                                                        240
                                    235
Phe Ala Met Tyr Arg Pro
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<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

gagattggaa acagccaggt tggagcagtg agtgagtaag gaaacctggc 50
tgccctctcc agattcccca ggctctcaga gaagatcagc agaaagtctg 100
caagacccta agaaccatca gccctcagct gcacctcctc ccctccaagg 150
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Leu Gln Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser 35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser 50 55 60

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe 65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser 80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn 95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala 110 115 120

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly 125 130 135

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg

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<223> Synthetic construct.
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<213> Artificial
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<213> Homo sapiens
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<210> 347

<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

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Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr 35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp 50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly
65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu 80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg 95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile 110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp 125 130 135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr 140 145 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala 155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu 170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val 185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr
200 205 210

Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu 215 220 225

Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser 230 235 240

Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu 245 250 255

Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Ser Arg Ile Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile 310 Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg 325 Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly 380 Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu 470 475 Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His Asn Thr Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg 530 540 Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe

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<210> 351 <211> 2524 <212> DNA <213> Homo sapiens

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<210> 352

<211> 243

<212> PRT

<213> Homo sapiens

<400> 352

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Leu Pro Lys

<210> 353

<211> 480 <212> DNA

<213> Homo sapiens

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<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354

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Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu 20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly 35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp
50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser
65 70 75

Thr Ala Gln Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro 80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys 95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala 110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

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<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala 1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser 20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp 35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr 50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu 657075

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln 80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu 95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala 110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gln 125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro

Ser Pro Arg Gly Asp Leu Pro

<213> Homo sapiens

<400> 357

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1112

THE REAL PROPERTY OF THE PARCET

agcaggagca ggagagggac aatggaagct gccccgtcca ggttcatgtt 50 cctcttattt ctcctcacgt gtgagctggc tgcagaagtt gctgcagaag 100 ttgagaaatc ctcagatggt cctggtgctg cccaggaacc cacgtggctc 150 acagatgtcc cagctgccat ggaattcatt gctgccactg aggtggctgt 200 cataggette ttecaggatt tagaaatace ageagtgeee atacteeata 250 gcatggtgca aaaattccca ggcgtgtcat ttgggatcag cactgattct 300 gaggttctga cacactacaa catcactggg aacaccatct gcctctttcg 350 cctggtagac aatgaacaac tgaatttaga qgacqaagac attgaaagca 400 ttgatgccac caaattgagc cgtttcattg agatcaacag cctccacatg 450 gtgacagagt acaaccctgt gactgtgatt gggttattca acagcgtaat 500 tcagattcat ctcctcctga taatgaacaa ggcctcccca gagtatgaag 550 agaacatgca cagataccag aaggcagcca agctcttcca ggggaagatt 600 ctctttattc tggtggacag tggtatgaaa gaaaatggga aggtgatatc 650 atttttcaaa ctaaaggagt ctcaactgcc agctttggca atttaccaga 700 ctctagatga cgagtgggat acactgccca cagcagaagt ttccgtagag 750 catgtgcaaa acttttgtga tggattccta agtggaaaat tgttgaaaqa 800 aaatcgtgaa tcagaaggaa agactccaaa ggtggaactc tgacttctcc 850 ttggaactac atatggccaa gtatctactt tatgcaaaqt aaaaaqqcac 900 aactcaaatc tcagagacac taaacaacag gatcactagg cctgccaacc 950 acacacaca geaegtgeae acacgeaege acgegtgeae acacacacge 1000 gcacacaca acacacag agettcattt cetgtettaa aatetegttt 1050 tctcttcttc cttcttttaa atttcatatc ctcactccct atccaatttc 1100 cttcttatcg tgcattcata ctctgtaagc ccatctgtaa cacacctaga 1150 tcaaggcttt aagagactca ctgtgatgcc tctatgaaag agaggcattc 1200 ctagagaaag attgttccaa tttgtcattt aatatcaagt ttgtatactg 1250 cacatgactt acacacaaca tagttcctgc tcttttaagg ttacctaagg 1300 gttgaaactc taccttcttt cataagcaca tgtccgtctc tgactcagga 1350 tcaaaaacca aaggatggtt ttaaacacct ttgtgaaatt gtctttttgc 1400 cagaagttaa aggctgtctc caagtccctg aactcagcag aaatagacca 1450 tgtgaaaact ccatgcttgg ttagcatctc caactcccta tgtaaatcaa 1500 caacctgcat aataaataaa aggcaatcat gttata 1536

<210> 358

<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu 1 5 10 15

Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser 20 25 30

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp 35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val 50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu 65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser 80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr 95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu
110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe 125 130 135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val
140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu 155 160 165

Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His 170 175 180

Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe 185 190 195

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Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser
                  200
                                      205
 Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr
                  215
                                      220
 Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val
                                      235
 Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly
                                      250
 Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys
 Val Glu Leu
<210> 359
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 359
ccagcagtgc ccatactcca tagc 24
<210> 360
<211> 20
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
<400> 360
tgacgagtgg gatacactgc 20
<210> 361
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 361
gctctacgga aacttctgct gtgg 24
<210> 362
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<211> 50
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-50
<223> Synthetic construct.
<400> 362
attcccaggc gtgtcatttg ggatcagcac tgattctgag gttctgacac 50
<210> 363
<211> 1777
<212> DNA
<213> Homo sapiens
<400> 363
ggagagccgc ggctgggacc ggagtgggga gcgcggcgtg gaggtgccac 50
ccggcgcggg tggcggagag atcagaagcc tcttccccaa gccgagccaa 100
cctcagcggg gacccgggct cagggacgcg gcggcggcgg cggcgactgc 150
agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200
cccagacage eggegetgge tgtggteggt getggeggeg gegettggge 250
tcttgacagc tggagtatca gccttggaag tatatacgcc aaaagaaatc 300
ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350
tagtacgact ggcgggttga cctcagtctc ctggagcttc cagccagagg 400
gggccgacac tactgtgtcg tttttccact actcccaagg gcaagtgtac 450
cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500
tgacaagaaa gatgcatcaa tcaacataga aaatatgcag tttatacaca 550
atggcaccta tatctgtgat gtcaaaaacc ctcctgacat cgttgtccag 600
cctggacaca ttaggctcta tgtcgtagaa aaagagaatt tgcctgtgtt 650
tccagtttgg gtagtggtgg gcatagttac tgctgtggtc ctaggtctca 700
ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750
aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800
gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850
tgccttctgg atctcaccag ggcccagtca tatatgcaca gttagaccac 900
tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950
tgcggatatc cgaaagaatt aagagaatac ctagaacata tcctcagcaa 1000
```

gaaacaaaac caaactggac tetegtgcag aaaatgtage ccattaccac 1050 atgtagcctt ggagacccag gcaaggacaa gtacacgtgt actcacagag 1100 ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150 cctgatatga ggagccagtg ttgcatgatg aaaagatggt atgattctac 1200 atatgtaccc attgtcttgc tgtttttgta ctttcttttc aggtcattta 1250 caattgggag atttcagaaa cattcctttc accatcattt agaaatggtt 1300 tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350 ccttttaatc taagggctta agactgatta gtcttagcat ttactgtagt 1400 tggaggatgg agatgctatg atggaagcat acccagggtg gcctttagca 1450 cagtatcagt accatttatt tqtctqccqc ttttaaaaaaa tacccattqq 1500 ctatgccact tgaaaacaat ttgagaagtt tttttgaagt ttttctcact 1550 aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600 tttgcaccct tgaaatgtgt catatcaatt tctggattca taatagcaag 1650 attagcaaag gataaatgcc gaaggtcact tcattctgga cacagttgga 1700 tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750 cgtggagagt aaaaagtatc ggtttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp 1 5 10 15

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu 20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu
35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe 50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser 65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr 80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp $95 \hspace{1cm} 100 \hspace{1cm} 105 \hspace{1cm}$

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Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile
Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys
                125
                                    130
                                                        135
Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile
                                                        150
Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val
Trp Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr
                170
                                                        180
Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn
                                    190
Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser
                                                        210
Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly
                                    220
Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile
                230
Tyr Ala Gln Leu Asp His Ser Gly Gly His His Ser Asp Lys Ile
                                    250
Asn Lys Ser Glu Ser Val Val Tyr Ala Asp Ile Arg Lys Asn
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<210> 365

<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

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egggetgeeg eeceeggggg ettggeetea agetgeggae gaeggegggt 100
ecateagege geegggetge egeetetegg eeaeggetgg gtegggggee 150
tegggetggg getggggetg gegetegggg tgaagetgge aggtgggetg 200
aggggegegg eeceeggea gteeceegeg geeeeeggee etgggget 250
geetetggee gageegeae aggageagte eetegeeeg tggteteege 300
agaeeeegge geegeeetge teeaggtget tegeeagage eategagage 350
ageeggaee tgetgeaeag gateaaggat gaggtggeg eacegggeat 400
agtggttgga gtteetgtag atggaaaaga agtetggtea gaaggtttag 450
gttatgetga tgttgagaae egtgtaeeat gtaaaeeaag gaeagttatg 500

cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550 gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600 ccgaattccc agaaaaagaa tatgaaggtg aaaaggtttc tgtcacaaca 650 agattactga tttcccattt aagtggaatt cgtcattatg aaaaggacat 700 aaaaaaggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750 agaatgttgc atttgagcaa gaaaaaqaaq gcaaaagtaa tgaaaagaat 800 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccggaa 850 ttcaaaacct ggcaagaaaa agaatgattt tgaacaaggc gaattatatt 900 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950 gatcctttgt tcttcaaacc tggtagtcag tttttgtatt caacttttgg 1000 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100 caggaagaaa acgagccagt gatttacaat agagcaaggt aaatgaatac 1150 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200 aagtcaaatt ttctttgttt ccattccaaa atcaacctgc cacattttgg 1250 gagettttct acatgtctgt tttctcatct gtaaagtgaa ggaagtaaaa 1300 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Pro 1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg
20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly 35 40 45

Leu Gly Leu Gly Leu Ala Leu Gly Val Lys Leu Ala Gly Gly Leu 50 55 60

Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu 65 70 75

Ala Ser Pro Leu Ala Glu Pro Pro Gln Glu Gln Ser Leu Ala Pro 80 85 90

Trp Ser Pro Gln Thr Pro Ala Pro Pro Cys Ser Arg Cys Phe Ala Arg Ala Ile Glu Ser Ser Arg Asp Leu Leu His Arg Ile Lys Asp 115 Glu Val Gly Ala Pro Gly Ile Val Val Gly Val Ser Val Asp Gly Lys Glu Val Trp Ser Glu Gly Leu Gly Tyr Ala Asp Val Glu Asn Arg Val Pro Cys Lys Pro Glu Thr Val Met Arg Ile Ala Ser Ile 155 Ser Lys Ser Leu Thr Met Val Ala Leu Ala Lys Leu Trp Glu Ala Gly Lys Leu Asp Leu Asp Ile Pro Val Gln His Tyr Val Pro Glu 185 Phe Pro Glu Lys Glu Tyr Glu Gly Glu Lys Val Ser Val Thr Thr Arg Leu Leu Ile Ser His Leu Ser Gly Ile Arg His Tyr Glu Lys 215 Asp Ile Lys Lys Val Lys Glu Glu Lys Ala Tyr Lys Ala Leu Lys Met Met Lys Glu Asn Val Ala Phe Glu Gln Glu Lys Glu Gly Lys Ser Asn Glu Lys Asn Asp Phe Thr Lys Phe Lys Thr Glu Gln Glu Asn Glu Ala Lys Cys Arg Asn Ser Lys Pro Gly Lys Lys Lys Asn 275 Asp Phe Glu Gln Gly Glu Leu Tyr Leu Arg Glu Lys Phe Glu Asn Ser Ile Glu Ser Leu Arg Leu Phe Lys Asn Asp Pro Leu Phe Phe 305 310 315 Lys Pro Gly Ser Gln Phe Leu Tyr Ser Thr Phe Gly Tyr Thr Leu Leu Ala Ala Ile Val Glu Arg Ala Ser Gly Cys Lys Tyr Leu Asp 335 Tyr Met Gln Lys Ile Phe His Asp Leu Asp Met Leu Thr Thr Val Gln Glu Glu Asn Glu Pro Val Ile Tyr Asn Arg Ala Arg

<210> 367

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<211> 30
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-30
<223> Synthetic construct.
<400> 367
 tggaaaagaa gtctggtcag aaggtttagg 30
<210> 368
<211> 25
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-25
<223> Synthetic construct.
<400> 368
 catttggctt cattctcctg ctctg 25
<210> 369
<211> 28
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-28
<223> Synthetic construct.
<400> 369
aaaacctcag aacaactcat tttgcacc 28
<210> 370
<211> 41
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-41
<223> Synthetic construct.
<400> 370
 gtctcaccat ggttgctctt gccaaattgt gggaagcagg g 41
<210> 371
<211> 1150
<212> DNA
<213> Homo sapiens
<400> 371
 gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50
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gaattcggct cgaggctggt gggaagaagc cgagatggcg gcagccagcg 100 ctggggcaac ccgctgctc ctgctcttqc tgatggcggt agcagcgccc 150 agtcgagccc ggggcagcgg ctgccgggcc gggactggtg cgcgaggggc 200 tggggcggaa ggtcgagagg gcgaggcctg tggcacggtg gggctgctgc 250 tggagcactc atttgagatc gatgacagtg ccaacttccg gaagcggggc 300 tcactgctct ggaaccagca ggatggtacc ttgtccctgt cacagcggca 350 gctcagcgag gaggagcggg gccgactccg ggatgtggca gccctgaatg 400 gcctgtaccg ggtccggatc ccaaggcgac ccggggccct ggatggcctg 450 gaagetggtg getatgtete eteetttgte eetgegtget eeetggtgga 500 gtcgcacctg tcggaccagc tgaccctgca cgtggatgtg gccggcaacg 550 tggtgggcgt gtcggtggtg acqcaccccq ggggctgccq gggccatgag 600 gtggaggacg tggacctgga gctgttcaac acctcggtgc agctgcagcc 650 gcccaccaca gccccaggcc ctgagacggc ggccttcatt gagcgcctgg 700 agatggaaca ggcccagaag gccaagaacc cccaggagca gaagtccttc 750 ttcgccaaat actggatgta catcattccc gtcgtcctgt tcctcatgat 800 gtcaggagcg ccagacaccg ggggccaggg tgggggtggg ggtgggggtg 850 gtggtggggg tagtggcctt tqctqtqtqc caccctccct qtaaqtctat 900 ttaaaaacat cgacgataca ttgaaatgtg tgaacgtttt gaaaagctac 950 agcttccagc agccaaaagc aactgttgtt ttggcaagac ggtcctgatg 1000 tacaagcttg attgaaattc actgctcact tgatacgtta ttcagaaacc 1050 caaggaatgg ctgtccccat cctcatgtgg ctgtgtggag ctcagctgtg 1100 ttgtgtggca gtttattaaa ctgtccccca gatcgacacg caaaaaaaaa 1150

<210> 372

<211> 269

<212> PRT

<213> Homo sapiens

<400> 372

Met Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu 1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys
20 25 30

Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu
35 40 45

```
Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Glu His Ser Phe
Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu
Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu
Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn
                 95
Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp
Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys
                125
Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val
                140
Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro
Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu
Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly
                185
Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala
                200
                                    205
Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys
Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser
Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly
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<210> 373

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 373

ggagegetge tggaacecga geeggageeg gagecacage ggggagggtg 50 geetggegge etggageegg acgtgteegg ggegteeeeg cagacegggg 100 cageaggteg teegggggee caccatgetg gtgaetgeet acettgettt 150 tgtaggeete etggeeteet geetgggget ggaactgtea agatgeeggg 200

Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu

ctaaaccccc tggaagggcc tgcagcaatc cctccttcct tcggtttcaa 250 ctggacttct atcaggtcta cttcctggcc ctggcagctg attggcttca 300 ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350 aaattgccat cctctatgtc tgtggccttg cctctacagt cctctttggc 400 ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450 cctcttctcc ctgacttact cactatgctg cttaaccaaa ctctctcaag 500 actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550 ctgctcttct cagccttcga ggcctggtat atccatgagc acgtggaacg 600 gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650 tctggaacca tgtgctggct gtagtggcag gtgtggcagc tgaggctgta 700 gccagctgga tagggctggg gcctgtagcg ccctttgtgg ctgccatccc 750 tetectgget etggeagggg cettggeeet tegaaactgg ggggagaact 800 atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850 ctcctgtcgg accgccgcgt gctgctgctg ggcaccatac aagctctatt 900 tgagagtgtc atcttcatct ttgtcttcct ctggacacct gtgctggacc 950 cacacggggc ccctctgggc attatcttct ccagcttcat ggcagccagc 1000 ctgcttggct cttccctgta ccgtatcgcc acctccaaga ggtaccacct 1050 teageceatg cacetgetgt ceettgetgt geteategte gtettetete 1100 tcttcatgtt gactttctct accagcccag gccaggagag tccggtggag 1150 tccttcatag cctttctact tattgagttg gcttgtggat tatactttcc 1200 cagcatgagc ttcctacgga gaaaggtgat ccctgagaca gagcaggctg 1250 gtgtactcaa ctggttccgg gtacctctgc actcactggc ttgcctaggg 1300 ctccttgtcc tccatgacag tgatcgaaaa acaggcactc ggaatatgtt 1350 cagcatttgc tctgctgtca tggtgatggc tctgctggca gtggtgggac 1400 tetteacegt ggtaaggeat gatgetgage tgegggtace tteacetact 1450 gaggagccct atgcccctga gctgtaaccc cactccagga caagatagct 1500 gggacagact cttgaattcc agctatccgg gattgtacag atctctctgt 1550 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgttt 1600 gggaggacat gatggggtg atggactgga aagaaggtgc caaaagttcc 1650

ctctgtgtta ctcccattta gaaaataaac acttttaaat gatcaaaaaa 1700 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser 1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly 20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe
35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala 50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly 65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu 80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys 95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu 110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala 125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala 140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu 155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val 170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp 185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu 200 205 210

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn $215 \hspace{1.5cm} 220 \hspace{1.5cm} 225$

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu 230 235 240

```
Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Gly Thr Ile
                245
                                    250
Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp
                260
Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe
Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg
Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu
Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr
                320
                                    325
Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile
                335
                                    340
                                                         345
Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser
Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala
                365
Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys
                380
Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr
                395
                                    400
Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu
                410
                                    415
Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu
                425
                                    430
Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu
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<210> 375

<211> 1098

<212> DNA

<213> Artificial

440

<400> 375

gcgacgcgc gcgggcggc gagaggaaac gcggcgcgg gccgggcccg 50 gccctggaga tggtccccgg cgccgcgggc tggtgttgtc tcgtgctctg 100 gctccccgcg tgcgtcgcgg cccacggctt ccgtatccat gattatttgt 150 actttcaagt gctgagtcct ggggacattc gatacatctt cacagccaca 200 cctgccaagg actttggtgg tatctttcac acaaggtatg agcagattca 250

445

cettgtcccc getgaacete cagaggeetg eggggaacte ageaacggtt 300 tcttcatcca ggaccagatt gctctggtgg agagggggg ctgctccttc 350 ctctccaaga ctcgggtggt ccaggagcac ggcgggcggg cggtgatcat 400 ctctgacaac gcagttgaca atgacagctt ctacgtggag atgatccagg 450 acagtaccca gcgcacagct gacatccccg ccctcttcct gctcggccga 500 gacggctaca tgatccgccg ctctctggaa cagcatgggc tgccatgggc 550 catcatttcc atcccagtca atgtcaccag catccccacc tttgagctgc 600 tgcaaccgcc ctggaccttc tggtagaaga gtttgtccca cattccagcc 650 ataagtgact ctgagctggg aaggggaaac ccaggaattt tgctacttgg 700 aatttggaga tagcatctgg ggacaagtgg agccaggtag aggaaaaggg 750 cccagggccc ccaagggtgt ctcatgctac aagaagaggc aagagacagg 850 ccccagggct tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900 gcctgagagc catctgtgac ctgtcacact cacctggctc cagcctcccc 950 tacccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000 aaagagetgg tgtttgggga ctcaataaac cetcaetgae tttttageaa 1050 taaaqcttct catcagggtt gcaaaaaaaa aaaaaaaaa aaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu 1 5 10 15

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu 20 25 30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr 35 40 45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr 50 55 60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly
65 70 75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val $80\,$ $85\,$ 90

```
Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln
95 100 105
```

Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp 110 115 120

Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg 125 130 135

Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr 140 145 150

Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile 155 160 165

Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu 170 175 180

Leu Gln Pro Pro Trp Thr Phe Trp 185

<210> 377

<211> 496

<212> DNA

<213> Artificial

<220>

<221> unsure

<222> 396

<223> unknown base

<400> 377

<210> 378

<211> 116

<212> PRT

<213> Homo sapiens

<400> 378

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Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val
                                       10
 Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys
 Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly
 Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr
 Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys
 Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile
                                       85
 His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe
                                      100
 Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu
                 110
<210> 379
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 379
ctgcctccac tgctctgtgc tggg 24
<210> 380
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 380
cagagcagtg gatgttcccc tggg 24
<210> 381
<211> 45
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-45
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<223> Synthetic construct.
<400> 381
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<210> 382
<211> 764
<212> DNA
<213> Homo sapiens
<400> 382
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 ggcgatgtgg agggtgcccg gcacaaccag acgcccagtc acaggcgaga 100
 gccctgggat gcaccggcca gaggccatgc tgctgctgct cacgcttgcc 150
 ctcctggggg gccccacctg ggcagggaag atgtatggcc ctggaggagg 200
 caagtatttc agcaccactg aagactacga ccatgaaatc acagggctgc 250
 gggtgtctgt aggtcttctc ctggtgaaaa gtgtccaggt gaaacttgga 300
 gactcctggg acgtgaaact gggagcctta ggtgggaata cccaggaagt 350
 caccetgeag ceaggegaat acateacaaa agtetttgte geetteeaag 400
 ctttcctccg gggtatggtc atgtacacca gcaaggaccg ctatttctat 450
 tttgggaagc ttgatggcca gatctcctct gcctacccca gccaagaggg 500
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 gcattggctt tgaatggaat tatccactag aggagccgac cactgagcca 600
 ccagttaatc tcacatactc agcaaactca cccgtgggtc gctagggtgg 650
ggtatggggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700
actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750
gcttctgcag aaaa 764
<210> 383
<211> 178
<212> PRT
<213> Homo sapiens
<400> 383
Met His Arg Pro Glu Ala Met Leu Leu Leu Thr Leu Ala Leu
Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly
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Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr

```
Gly Leu Arg Val Ser Val Gly Leu Leu Leu Val Lys Ser Val Gln 50 55 60
```

Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly 65 70 75

Gly Asn Thr Gln Glu Val Thr Leu Gln Pro Gly Glu Tyr Ile Thr 80 85 90

Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met 95 100 105

Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly 110 115 120

Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val 125 130 135

Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly Ile Lys Ser Ile Gly 140 145 150

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro 155 160 165

Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg 170 175

<210> 384

<211> 2379

<212> DNA

<213> Homo sapiens

<400> 384

getgagegtg tgeeggtae ggggetetee tgeettetgg getecaaege 50 agetetgtgg etgaaetggg tgeteateae gggaaetget gggetatgga 100 atacagatgt ggeageteag gtageeceaa attgeetgga agaatacate 150 atgtttteg ataagaagaa attgtaggat eeagttttt ttttaaeege 200 eeeeteecea eeeeecaaaa aaaetgtaaa gatgeaaaaa egtaatatee 250 atgaagatee tattaeetag gaagattttg atgtttget gegaatgegg 300 tgttgggatt tatttgttet tggagtgtte tgegtggetg geaaagaata 350 atgtteeaaa ateggteeat eteceaaggg gteeaatttt tetteetggg 400 tgteagegag eeetgaetea etaeagtgea getgaeaggg getgteatge 450 aaetggeee taageeaaag eaaaagaeet aaggaegaee tttgaaeaat 500 acaaaggatg ggttteaatg taattagget aetgaeggga teagetgtag 550 eaetggttat ageeeecaet gtettaetga eaatgettte ttetgeegaa 600 egaggatgee etaagggetg taggtggaa ggeaaaatgg tatattgtga 650

atctcagaaa ttacaggaga taccctcaag tatatctgct ggttgcttag 700 gtttgtccct tcgctataac agccttcaaa aacttaagta taatcaattt 750 aaagggctca accagctcac ctggctatac cttgaccata accatatcag 800 caatattgac gaaaatgctt ttaatggaat acgcagactc aaagagctga 850 ttcttagttc caatagaatc tcctattttc ttaacaatac cttcagacct 900 gtgacaaatt tacggaactt ggatctgtcc tataatcagc tgcattctct 950 gggatctgaa cagtttcggg gcttgcggaa gctgctgagt ttacatttac 1000 ggtctaactc cctgagaacc atccctgtgc gaatattcca agactgccgc 1050 aacctggaac ttttggacct gggatataac cggatccgaa gtttagccag 1100 gaatgtcttt gctggcatga tcagactcaa agaacttcac ctggagcaca 1150 atcaattttc caagctcaac ctggcccttt ttccaaggtt ggtcagcctt 1200 cagaaccttt acttgcagtg gaataaaatc agtgtcatag gacagaccat 1250 gtcctggacc tggagctcct tacaaaggct tgatttatca ggcaatgaga 1300 tegaagettt cagtggaeee agtgttttee agtgtgteee gaatetgeag 1350 cgcctcaacc tggattccaa caagctcaca tttattggtc aagagatttt 1400 ggattcttgg atatccctca atgacatcag tcttgctggg aatatatggg 1450 aatgcagcag aaatatttgc tcccttgtaa actggctgaa aagttttaaa 1500 ggtctaaggg agaatacaat tatctgtgcc agtcccaaag agctgcaagg 1550 agtaaatgtg atcgatgcag tgaagaacta cagcatctgt ggcaaaagta 1600 ctacagagag gtttgatctg gccagggctc tcccaaagcc gacgtttaag 1650 cccaagetee ccaggeegaa geatgagage aaaceceett tgeeceegae 1700 ggtgggagcc acagagcccg gcccagagac cgatgctgac gccgagcaca 1750 tetettteea taaaateate gegggeageg tggegetttt cetqteeqtq 1800 ctcgtcatcc tgctggttat ctacgtgtca tggaagcggt accctgcgag 1850 catgaagcag ctgcagcagc gctccctcat gcgaaggcac aggaaaaaga 1900 aaagacagtc cctaaagcaa atgactccca gcacccagga attttatgta 1950 gattataaac ccaccaacac ggagaccagc gagatgctgc tgaatgggac 2000 gggaccctgc acctataaca aatcgggctc cagggagtgt gaggtatgaa 2050 ccattgtgat aaaaagagct cttaaaagct gggaaataag tggtgcttta 2100

ttgaactctg gtgactatca agggaacgcg atgcccccc teccettece 2150 tetecetete aetttggtgg caagateett eettgteegt tttagtgeat 2200 teataatact ggteatttte eteteataca taateaacee attgaaattt 2250 aaataccaca ateaatgtga agettgaact eeggtttaat ataataceta 2300 ttgtataaga eeetttactg attecattaa tgtegeattt gttttaagat 2350 aaaacttett teataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT

<213> Homo sapiens

<400> 385

Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala 1 5 10 15

Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala 20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val 35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser 50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys
65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu 80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe 95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg 110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu 125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser 140 145 150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg 155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser 185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu

				200					205					210
His	Leu	Glu	His	Asn 215	Gln	Phe	Ser	Lys	Leu 220	Asn	Leu	Ala	Leu	Phe 225
Pro	Arg	Leu	Val	Ser 230	Leu	Gln	Asn	Leu	Tyr 235	Leu	Gln	Trp	Asn	Lys 240
Ile	Ser	Val	Ile	Gly 245	Gln	Thr	Met	Ser	Trp 250	Thr	Trp	Ser	Ser	Leu 255
Gln	Arg	Leu	Asp	Leu 260	Ser	Gly	Asn	Glu	Ile 265	Glu	Ala	Phe	Ser	Gly 270
Pro	Ser	Val	Phe	Gln 275	Cys	Val	Pro	Asn	Leu 280	Gln	Arg	Leu	Asn	Leu 285
Asp	Ser	Asn	Lys	Leu 290	Thr	Phe	Ile	Gly	Gln 295	Glu	Ile	Leu	Asp	Ser 300
Trp	Ile	Ser	Leu	Asn 305	Asp	Ile	Ser	Leu	Ala 310	Gly	Asn	Ile	Trp	Glu 315
Суѕ	Ser	Arg	Asn	Ile 320	Cys	Ser	Leu	Val	Asn 325	Trp	Leu	Lys	Ser	Phe 330
Lys	Gly	Leu	Arg	Glu 335	Asn	Thr	Ile	Ile	Cys 340	Ala	Ser	Pro	Lys	Glu 345
Leu	Gln	Gly	Val	Asn 350	Val	Ile	Asp	Ala	Val 355	Lys	Asn	Tyr	Ser	Ile 360
Cys	Gly	Lys	Ser	Thr 365	Thr	Glu	Arg	Phe	Asp 370	Leu	Ala	Arg	Ala	Leu 375
Pro	Lys	Pro	Thr	Phe 380	Lys	Pro	Lys	Leu	Pro 385	Arg	Pro	Lys	His	Glu 390
Ser	Lys	Pro	Pro	Leu 395	Pro	Pro	Thr	Val	Gly 400	Ala	Thr	Glu	Pro	Gly 405
Pro	Glu	Thr	Asp	Ala 410	Asp	Ala	Glu	His	Ile 415	Ser	Phe	His	Lys	Ile 420
Ile	Ala	Gly	Ser	Val 425	Ala	Leu	Phe	Leu	Ser 430	Val	Leu	Val	Ile	Leu 435
Leu	Val	Ile	Tyr	Val 440	Ser	Trp	Lys	Arg	Tyr 445	Pro	Ala	Ser	Met	Lys 450
Gln	Leu	Gln	Gln	Arg 455	Ser	Leu	Met	Arg	Arg 460	His	Arg	Lys	Lys	Lys 465
Arg	Gln	Ser	Leu	Lys 470	Gln	Met	Thr	Pro	Ser 475	Thr	Gln	Glu	Phe	Tyr 480
Val	Asp	Tyr	Lys	Pro 485	Thr	Asn	Thr	Glu	Thr 490	Ser	Glu	Met	Leu	Leu 495

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Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu
 Cys Glu Val
<210> 386
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 386
ctgggatctg aacagtttcg gggc 24
<210> 387
<211> 24
<212> DNA
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<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 387
ggtccccagg acatggtctg tccc 24
<210> 388
<211> 48
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-48
<223> Synthetic construct.
<400> 388
gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48
<210> 389
<211> 1449
<212> DNA
<213> Homo sapiens
<400> 389
 agttctgaga aagaaggaaa taaacacagg caccaaacca ctatcctaag 50
 ttgactgtcc tttaaatatg tcaagatcca gacttttcag tgtcacctca 100
 gcgatctcaa cgatagggat cttgtgtttg ccgctattcc agttggtgct 150
 ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200
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aacaccctaa tggctggtat atctggatcc tcctgctgct ggttttggtg 250
geagetette tetgtggage tgtggteete tgeeteeagt getggetgag 300
gagaccccga attgattctc acaggcgcac catggcagtt tttgctgttg 350
gagacttgga ctctatttat gggacagaag cagctgtgag tccaactgtt 400
ggaattcacc ttcaaactca aacccctgac ctatatcctg ttcctgctcc 450
atgttttggc cctttaggct ccccacctcc atatgaagaa attgtaaaaa 500
caacctgatt ttaggtgtgg attatcaatt taaagtatta acgacatctg 550
taattccaaa acatcaaatt taggaatagt tatttcagtt gttggaaatg 600
tccagagatc tattcatata gtctgaggaa ggacaattcg acaaaagaat 650
ggatgttgga aaaaattttg gtcatggaga tgtttaaata gtaaagtagc 700
aggettttga tgtgtcactg ctgtatcata cttttatgct acacaaccaa 750
attaatgctt ctccactagt atccaaacag gcaacaatta ggtgctggaa 800
gtagtttcca tcacatttag gactccactg cagtatacag cacaccattt 850
tctgctttaa actctttcct agcatggggt ccataaaaat tattataatt 900
taacaatago ccaagoogag aatocaacat gtocagaaco agaaccagaa 950
agatagtatt tqaatqaagg tgaggggaga gagtaggaaa aagaaaagtt 1000
tggagttgaa gggtaaagga taaatgaaga ggaaaaggaa aagattacaa 1050
gtctcagcaa aaacaagagg ttttatgccc caacctgaag aggaagaaat 1100
tgtagataga aggtgaagga gattgctgaa gatatagagc acatataatg 1150
ccaacacggg gagaaaagaa aatttcccct tttacagtaa tgaatgtggc 1200
ctccatagtc catagtgttt ctctggagcc tcagggcttg gcatttattg 1250
cagcatcatg ctaagaacct teggcatagg tatetgttee catgaggact 1300
gcagaagtag caatgagaca tetteaagtg gcattttgge agtggccate 1350
agcaggggga cagacaaaaa catccatcac agatgacata tgatcttcag 1400
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<210> 390

<211> 146

<212> PRT

<213> Homo sapiens

<400> 390

Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

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Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp
 Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln
 His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu
 Val Ala Ala Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys
 Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala
 Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala
 Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro
 Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser
 Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr
<210> 391
<211> 26
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 391
cttttcagtg tcacctcagc gatctc 26
<210> 392
<211> 23
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-23
<223> Synthetic construct.
<400> 392
ccaaaacatg gagcaggaac agg 23
<210> 393
<211> 47
<212> DNA
<213> Artificial
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<220>
<221> Artificial Sequence
<222> 1-47
<223> Synthetic construct.
<400> 393
ccagttggtg ctctcggacc taccatgcga agaagatgaa atgtgtg 47
<210> 394
<211> 2340
<212> DNA
<213> Homo sapiens
<400> 394
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aagctccgtg gcggcggcga ccgtgacgag aagcccacgg ccagctcagt 200
 totottotac tttgggagag agagaaagtc agatgcccct tttaaactcc 250
 ctcttcaaaa ctcatctcct gggtgactga gttaatagag tggatacaac 300
 cttgctgaag atgaagaata tacaatattg aggatatttt tttctttttt 350
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 gtctgtttgt ttgcttcttc agaaatgttt tttacaatct caagaaaaaa 450
 tatgtcccag aaattgagtt tactgttgct tgtatttgga ctcatttggg 500
 gattgatgtt actgcactat acttttcaac aaccaagaca tcaaagcagt 550
gtcaagttac gtgagcaaat actagactta agcaaaagat atgttaaagc 600
tctagcagag gaaaataaga acacagtgga tgtcgagaac ggtgcttcta 650
tggcaggata tgcggatctg aaaagaacaa ttgctgtcct tctggatgac 700
attttgcaac gattggtgaa gctggagaac aaagttgact atattgttgt 750
gaatggctca gcagccaaca ccaccaatgg tactagtggg aatttggtgc 800
cagtaaccac aaataaaaga acgaatgtct cgggcagtat cagatagcag 850
ttgaaaatca ccttgtgctg ctccatccac tgtggattat atcctatggc 900
agaaaagctt tataattgct ggcttaggac agagcaatac tttacaataa 950
aagetetaca cattttcaag gagtatgetg gattcatgga actctaattc 1000
tgtacataaa aattttaaag ttatttgttt gctttcaggc aagtctgttc 1050
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aatgctgtac tatgtcctta aagagaattt ggtaacttgg ttgatgtggt 1100

aagcagatag gtgagttttg tataaatctt ttgtgtttga gatcaagctg 1150 aaatgaaaac actgaaaaac atggattcat ttctataaca catttattta 1200 agtatataac acqttttttg gacaagtgaa gaatgtttaa tcattctgtc 1250 atttqttctc aatagatgta actgttagac tacggctatt tgaaaaaatg 1300 tgcttattgt actatatttt gttattccaa ttatgagcag agaaaggaaa 1350 tataatgttg aaaataatgt tttgaaatca tgacccaaag aatgtattga 1400 tttgcactat ccttcagaat aactgaaggt taattattgt atatttttaa 1450 aaattacact tataaqaqta taatcttqaa atgggtagca gccactgtcc 1500 attacctatc gtaaacattg gggcaattta ataacagcat taaaatagtt 1550 gtaaactcta atcttatact tattgaagaa taaaagatat ttttatgatg 1600 agagtaacaa taaagtattc atgatttttc acatacatga atgttcattt 1650 aaaagtttaa tootttgagt gtotatgota toaggaaago acattattto 1700 catatttggg ttaattttgc ttttattata ttggtctagg aggaagggac 1750 tttggagaat ggaactcttg aggactttag ccaggtgtat ataataaagg 1800 taaqaqtatc ctttatqaaa ttttqaattt qtataacaga tgcattagat 1900 attcatttta tataatggcc acttaaaata agaacattta aaatataaac 1950 tatgaagatt gactatcttt tcaggaaaaa agctgtatat agcacaggga 2000 accetaatet tgggtaatte tagtataaaa caaattatae ttttatttaa 2050 atttcccttg tagcaaatct aattgccaca tggtgcccta tatttcatag 2100 tatttattct ctatagtaac tgcttaagtg cagctagctt ctagatttag 2150 actatataga atttagatat tgtattgttc gtcattataa tatgctacca 2200 catgtagcaa taattacaat attttattaa aataaatatg tgaaatattg 2250 acctttatgt gaagaaatta attatatgcc attgccaggt 2340

<210> 395

<211> 140

<212> PRT

<213> Homo sapiens

<400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser
1 5 10 15

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Leu Leu Leu Val Phe Gly Leu Ile Trp Gly Leu Met Leu Leu 20 25 30
```

His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu 35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu 50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser
65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu 80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp 95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr 110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val 125 130 135

Ser Gly Ser Ile Arg 140

<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

<400> 396

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<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

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Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr 50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu 65 70 75

Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp 80 85 90

Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser 95 100 105

Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu
110 115 120

Thr Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp 125 130 135

Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala 140 145 150

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His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly
Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg
                 185
Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu
                                     205
Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe
                 215
Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
                                     235
Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly
                                     250
Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala
Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp
Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu
His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg
Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly
Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser
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<222> 1-23
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<210> 401
<211> 1571
<212> DNA
<213> Homo sapiens
<400> 401
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 gaggctatat gcgtcaattc cccaaaacaa gttttgacat ttcccctgaa 150
 atgtcattct ctatctattc actgcaagtg cctgctgttc caggccttac 200
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 cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaatc 300
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<210> 402

<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

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Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys 35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu
50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu 65 70 75

Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser 80 85 90

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Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr
 Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile
                 110
 Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg
 Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu
 Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys
 Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe
 Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser
 Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu
 Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys
 Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln
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 Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln
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<222> 1-28
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<400> 403
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<210> 404
<211> 26
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<222> 1-26
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<210> 406
<211> 323
<212> PRT
<213> Homo sapiens
<400> 406
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Glu Met Ser Gly Val Ser Pro Phe 320

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gcggaattct taaaatggac tgactccact catc 34

<210> 409 <211> 1487 <212> DNA

<213> Homo sapiens <400> 409

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tgcacttata ttttttagca ctctgatcta caaatttgga agaaccgaag 600 agctatggac ctgagatcac ttcttaagtc acattttcct tttgttatat 650 tctgtttgta gataggtttt ttatctctca gtacacattg ccaaatggag 700 tagattgtac attaaatgtt ttgtttcttt acatttttat gttctgagtt 750 ttgaaatagt tttatgaaat ttctttattt ttcattgcat agactgttaa 800 tatgtatata atacaagact atatgaattg gataatgagt atcagttttt 850 tattcctgag atttagaact tgatctactc cctgagccag ggttacatca 900 tcttgtcatt ttagaagtaa ccactcttgt ctctctggct gggcacggtg 950 gctcatgcct gtaatcccag cactttggga ggccgaggcg ggccgattgc 1000 ttgaggtcaa gtgtttgaga ccagcctggc caacatggcg aaaccccatc 1050 tactaaaaat acaaaaatta gccaggcatg gtggtgggtg cctgtaatcc 1100 cagctacctg ggaggctgag gcaggagaat cgcttgaacc cggggggcag 1150 aggttgcagt gagctgagtt tgcgccactg cactctagcc tgggggagaa 1200 agtgaaactc cctctcaaaa aaaagaccac tctcagtatc tctgatttct 1250 gaagatgtac aaaaaaatat agcttcatat atctggaatg agcactgagc 1300 cataaaaggt tttcagcaag ttgtaactta ttttggccta aaaatgaggt 1350 ttttttggta aagaaaaaat atttgttctt atgtattgaa gaagtgtact 1400 tttatataat gatttttaa atgcccaaag gactagtttg aaagcttctt 1450 ttaaaaagaa ttcctctaat atgactttat gtgagaa 1487

<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

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Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala 20 25 30

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala 35 40 45

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr
50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val $\,$ $\,$ 65 $\,$ $\,$ 70 $\,$ 75

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Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu
                  80
Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu
Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala
                                     115
Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe
 Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe
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 Gly Arg Thr Glu Glu Leu Trp Thr
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<211> 20
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<222> 1-20
<223> Synthetic construct.
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<210> 412
<211> 20
<212> DNA
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<220>
<221> Artificial Sequence
<222> 1-20
<223> Synthetic construct.
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<222> 1-40
<223> Synthetic construct.
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1 32

1,12

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1

<211> 1337

<212> DNA

<213> Homo sapiens

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<211> 224
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<213> Homo sapiens
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 Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro
 Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala
 Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met
 Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu
 Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp
 Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu
 Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro
 Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu
 Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val
                                     175
 Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln
 Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro
                                      205
 Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe
<210> 416
<211> 21
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
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<222> 1-21
<223> Synthetic construct.
<400> 416
gccatagtca cgacatggat g 21
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<211> 18
<212> DNA
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<220>
<221> Artificial Sequence
<222> 1-18
<223> Synthetic construct.
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<210> 418
<211> 26
<212> DNA
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<220>
<221> Artificial Sequence
<222> 1-26
<223> Synthetic construct.
<400> 418
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<210> 419
<211> 24
<212> DNA
<213> Artificial
<220>
<221> Artificial Sequence
<222> 1-24
<223> Synthetic construct.
<400> 419
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<210> 420
<211> 24
 <212> DNA
 <213> Artificial
 <220>
 <221> Artificial Sequence
 <222> 1-24
 <223> Synthetic construct.
 <400> 420
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<211> 46
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<220>
<221> Artificial Sequence
<222> 1-46
<223> Synthetic construct.
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<210> 422
<211> 1701
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 1528
<223> unknown base
<400> 422
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 tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100
 tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150
 cacgccagga getegetege tetetetete teteteteae teeteeetee 200
 ctctctctct gcctgtccta gtcctctagt cctcaaattc ccagtcccct 250
 gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300
 atttggatcc tggctgcaga tgggggtcaa cactggacgt atgagggccc 350
 acatggtcag gaccattggc cagcctctta ccctgagtgt ggaaacaatg 400
 cccagtcgcc catcgatatt cagacagaca gtgtgacatt tgaccctgat 450
 ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500
 ggacctgcac aacaatggcc acacagtgca actctctctg ccctctaccc 550
 tgtatctggg tggacttccc cgaaaatatg tagctgccca gctccacctg 600
 cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650
 tgaagccaca tttgcagagc tccacattgt acattatgac tctgattcct 700
 atgacagett gagtgagget getgagagge etcagggeet ggetgteetg 750
 ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800
```

tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850

ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900 cgctacaatg gctcgctcac aactccccct tgctaccaga gtgtgctctg 950 gacagttttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000 ttcaggggac attgttctcc acagaagagg agccctctaa gcttctggta 1050 cagaactacc gagcccttca gcctctcaat cagcgcatgg tctttgcttc 1100 tttcatccaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150 gtgtaggaat cttggttggc tgtctctgcc ttctcctggc tgtttatttc 1200 attgctagaa agattcggaa gaagaggctg gaaaaccgaa agagtgtggt 1250 cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300 catggatgtg gatgacttcc cttcatgcct atcaggaagc ctctaaaatg 1350 gggtgtagga tctggccaga aacactgtag gagtagtaag cagatgtcct 1400 cetteceetg gacatetett agagaggaat ggacecagge tgteatteea 1450 ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500 gaaatcgctg tgttgttaat gcagaganca aactctgttt agttgcaggg 1550 gaagtttggg atatacccca aagtcctcta ccccctcact tttatggccc 1600 tttccctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650 gaagttgtat atttttgatc aatatatttg gaaattaaag tttctgactt 1700 t 1701

<210> 423 <211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala 1 5 10 15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln $20 \ 25 \ 30$

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln
35
40

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp 50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu 65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

85 90 80 Pro Ser Thr Leu Tyr Leu Gly Gly Leu Pro Arg Lys Tyr Val Ala 100 Ala Gln Leu His Leu His Trp Gly Gln Lys Gly Ser Pro Gly Gly Ser Glu His Gln Ile Asn Ser Glu Ala Thr Phe Ala Glu Leu His Ile Val His Tyr Asp Ser Asp Ser Tyr Asp Ser Leu Ser Glu Ala Ala Glu Arg Pro Gln Gly Leu Ala Val Leu Gly Ile Leu Ile Glu Val Gly Glu Thr Lys Asn Ile Ala Tyr Glu His Ile Leu Ser His 175 Leu His Glu Val Arg His Lys Asp Gln Lys Thr Ser Val Pro Pro Phe Asn Leu Arg Glu Leu Leu Pro Lys Gln Leu Gly Gln Tyr Phe Arg Tyr Asn Gly Ser Leu Thr Thr Pro Pro Cys Tyr Gln Ser Val Leu Trp Thr Val Phe Tyr Arg Arg Ser Gln Ile Ser Met Glu Gln 235 Leu Glu Lys Leu Gln Gly Thr Leu Phe Ser Thr Glu Glu Glu Pro 250 Ser Lys Leu Leu Val Gln Asn Tyr Arg Ala Leu Gln Pro Leu Asn Gln Arg Met Val Phe Ala Ser Phe Ile Gln Ala Gly Ser Ser Tyr 280 Thr Thr Gly Glu Met Leu Ser Leu Gly Val Gly Ile Leu Val Gly Cys Leu Cys Leu Leu Ala Val Tyr Phe Ile Ala Arg Lys Ile Arg Lys Lys Arg Leu Glu Asn Arg Lys Ser Val Val Phe Thr Ser 325 Ala Gln Ala Thr Thr Glu Ala 335

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<211> 18

<212> DNA

<213> Artificial

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    <223> Synthetic construct.
    <400> 424
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    <210> 425
    <211> 18
    <212> DNA
    <213> Artificial
    <220>
    <221> Artificial Sequence
    <222> 1-18
    <223> Synthetic construct.
    <400> 425
     cccgatctgc ctgctgta 18
    <210> 426
    <211> 24
    <212> DNA
    <213> Artificial
     <220>
     <221> Artificial Sequence
     <222> 1-24
ı ab
     <223> Synthetic construct.
1, 1, 2
; ; ; į
     <400> 426
     ctgcactgta tggccattat tgtg 24
ŧ
145
     <210> 427
<211> 45
<212> DNA
     <213> Artificial
144
     <220>
     <221> Artificial Sequence
     <222> 1-45
     <223> Synthetic construct.
      cagaaaccca tgatacccta ctgaacaccg aatcccctgg aagcc 45
     <210> 428
     <211> 1073
     <212> DNA
     <213> Homo sapiens
     <400> 428
      aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50
      acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100
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gattctactg ttttgtcttc taggatcaac tcggtcatta ccacagctca 150

aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200 ctaccaaacc aacagcagtc aaatcaggtc tttccttctt taagtctgat 250 accattaaca cagatgetea caetggggee agatetgeat etgttaaate 300 ctgctgcagg aatgacacct ggtacccaga cccacccatt gaccctggga 350 gggttgaatg tacaacagca actgcaccca catgtgttac caatttttgt 400 cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450 aaatcttcac gagcctcatc atccattcct tgttcccggg aggcatcctg 500 cccaccagtc aggcagggc taatccagat gtccaggatg gaagccttcc 550 agcaggagga qcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600 gcctcccaac tcccagtggc acagatgacg actttgcagt gaccacccct 650 gcaggcatcc aaaggagcac acatgccatc gaggaagcca ccacagaatc 700 agcaaatgga attcagtaag ctgtttcaaa ttttttcaac taagctgcct 750 cgaatttggt gatacatgtg aatctttatc attgattata ttatggaata 800 gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850 gaaaatattc ttgaaatttc agaaaatatg ttctatgtag agaatcccaa 900 cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950 tatgctgcct ggatgatatg catattaaaa catatttgga aaactggaaa 1000 aaaaaaaaa aaaaaaaaaa aaa 1073

<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys 20 25 30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn 35 40 45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu 50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met 65 70 75

<210> 430 <211> 1257 <212> DNA <213> Homo Sapien

<400> 430

ggagagaggc gcgcggtga aaggcgcatt gatgcagcct gcggcggcct 50 cggagcgcgg cggagccaga cgctgaccac gttcctctcc tcggtctcct 100 ccgcctccag ctccgcgtg cccggcagcc gggagccatg cgacccagg 150 gccccgccgc ctcccgcag cggctccgcg gcctcctgct gctcctgctg 200 ctgcagctgc ccggcagcc gagcgcctct gagatcccca aggggaagca 250 aaaggcgcag ctccggcaga gggaggtggt ggacctgtat aatggaatgt 300 gcttacaagg gccagcagaa gtgcctggtc gagacgggag ccctggggcc 350 aatgttattc cgggtacacc tgggatccca ggtcgggag gattcaaagg gaatgtctga gggaaagct tgaggagtcc tggacacca 450 actacaagca gtgtcatga agttcattga attatggcat agatcttagg 500 aaaattgcgg agtgtacatt tacaaagatg cgttcaaata gtgctctaag 550 agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600 agcgttggta tttcacattc aatggagctg aatgttcag acctcttccc 650

attgaagcta taatttatt ggaccaagga agccctgaaa tgaattcaac 700 aattaatatt catcgcactt cttctgtga aggactttgt gaaggaattg 750 gtgctggatt agtggatgt gctatctggg ttggcacttg ttcagattac 800 ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850 tgaaggaacta ccaaaataaa tgcttaatt ttcatttgct acctctttt 900 ttattatgcc ttggaatggt tcacttaaat gacatttaa ataagtttat 950 gtatacatct gaatgaaaag caaagctaaa tatgttaaca gaccaaagtg 1000 tgattcaca ctgttttaa atctagcatt attcattttg cttcaatcaa 1050 aagtggttc aatatttt ttagttggt agaatactt cttcatagtc 1100 accatctcc aacctataat ttggaatatt gttgtggtct tttgttttt 1150 ctcttagtat agcatttta aaaaaatata aaagctacca atctttgtac 1200 aatttgtaaa tgttaagaat ttttttata tctgttaaat aaaaattatt 1250 tccaaca 1257

<210> 431

<211> 243

<212> PRT

<213> Homo Sapien

<400> 431

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly
1 5 10 15

Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala 20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg
35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala
50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro 65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys 80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn 95 100 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu 110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser 125 130 135

```
Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg
                 140
                                      145
 Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu
                 155
                                      160
 Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln
                 170
 Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser
 Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp
 Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp
 Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
 Leu Pro Lys
<210> 432
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aggacttgcc ctcaggaa 18
<210> 433
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<223> Synthetic oligonucleotide probe
<400> 433
cgcaggacag ttgtgaaaat a 21
<210> 434
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 434
atgacgctcg tccaaggcca c 21
<210> 435
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<211> 19
     <212> DNA
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    <223> Synthetic oligonucleotide probe
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     cccacctgta ccaccatgt 19
    <210> 436
    <211> 24
    <212> DNA
    <213> Artificial Sequence
    <220>
  <223> Synthetic oligonucleotide probe
    <400> 436
     actccaggca ccatctgttc tccc 24
    <210> 437
    <211> 19
    <212> DNA
: #k
    <213> Artificial Sequence
(1
    <223> Synthetic oligonucleotide probe
(#
    <400> 437
ļ t q li
     aagggctggc attcaagtc 19
1,4
    <210> 438
    <211> 19
    <212> DNA
145
    <213> Artificial Sequence
i ili
(N
    <223> Synthetic oligonucleotide probe
    <400> 438
     tgacctggca aaggaagaa 19
    <210> 439
    <211> 21
    <212> DNA
    <213> Artificial Sequence
    <220>
    <223> Synthetic oligonucleotide probe
    <400> 439
     cagccaccct ccagtccaag g 21
    <210> 440
    <211> 19
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<220>
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     gggtcgtgtt ttggagaga 19
    <210> 441
    <211> 20
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    <213> Artificial Sequence
    <220>
    <223> Synthetic oligonucleotide probe
    <400> 441
     ctggccctca gagcaccaat 20
    <210> 442
    <211> 25
    <212> DNA
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1.45
    <400> 442
    tectecatea etteceetag etcea 25
    <210> 443
    <211> 24
    <212> DNA
1,13
    <213> Artificial Sequence
1 35
    <220>
<223> Synthetic oligonucleotide probe
144
    <400> 443
1115
    ctggcaggag ttaaagttcc aaga 24
<210> 444
    <211> 18
    <212> DNA
    <213> Artificial Sequence
    <223> Synthetic oligonucleotide probe
    <400> 444
    aaaggacacc gggatgtg 18
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    <211> 26
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 agcgtacact ctctccaggc aaccag 26
<210> 446
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<400> 446
 caattctgga tgaggtggta ga 22
<210> 447
<211> 20
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<213> Artificial Sequence
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 caggactgag cgcttgttta 20
<210> 448
<211> 21
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<213> Artificial Sequence
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caaagcgcca agtaccggac c 21
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<400> 449
 ccagacctca gccaggaa 18
<210> 450
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 450
ccctagctga ccccttca 18
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    <211> 23
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    <223> Synthetic oligonucleotide probe
    <400> 451
     tctgacaagc agttttctga atc 23
    <210> 452
    <211> 26
    <212> DNA
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    <223> Synthetic oligonucleotide probe
    <400> 452
     ctctcccct cccttttcct ttgttt 26
    <210> 453
    <211> 18
    <212> DNA
    <213> Artificial Sequence
    <220>
    <223> Synthetic oligonucleotide probe
    <400> 453
     ctctggtgcc cacagtga 18
    <210> 454
142
    <211> 21
    <212> DNA
    <213> Artificial Sequence
    <223> Synthetic oligonucleotide probe
    <400> 454
    ccatgcctgc tcagccaaga a 21
    <210> 455
    <211> 23
    <212> DNA
    <213> Artificial Sequence
    <223> Synthetic oligonucleotide probe
    <400> 455
    caggaaatct ggaaacctac agt 23
    <210> 456
    <211> 20
   <212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 456
 ccttgaaaag gacccagttt 20
<210> 457
<211> 22
<212> DNA
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<400> 457
 atgagtcgca cctgctgttc cc 22
<210> 458
<211> 18
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 458
tagcagctgc ccttggta 18
<210> 459
<211> 22
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 459
aacagcaggt gcgactcatc ta 22
<210> 460
<211> 23
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<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 460
tgctaggcga cgacacccag acc 23
<210> 461
<211> 18
<212> DNA
<213> Artificial Sequence
<220>
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<223> Synthetic oligonucleotide probe
    <400> 461
     tggacacgtg gcagtgga 18
    <210> 462
    <211> 19
    <212> DNA
    <213> Artificial Sequence
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    <223> Synthetic oligonucleotide probe
    <400> 462
     tcatggtctc gtcccattc 19
    <210> 463
    <211> 27
    <212> DNA
    <213> Artificial Sequence
    <220>
    <223> Synthetic oligonucleotide probe
    <400> 463
     caccatttgt ttctctgtct ccccatc 27
    <210> 464
    <211> 18
    <212> DNA
| <213> Artificial Sequence
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    <223> Synthetic oligonucleotide probe
   <400> 464
     ccggcatcct tggagtag 18
    <210> 465
    <211> 20
    <212> DNA
    <213> Artificial Sequence
    <220>
    <223> Synthetic oligonucleotide probe
    <400> 465
     tccccattag cacaggagta 20
    <210> 466
    <211> 23
    <212> DNA
    <213> Artificial Sequence
    <223> Synthetic oligonucleotide probe
    <400> 466
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1, 1, 2

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aggetettge etgteetget get 23
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<211> 18
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gcccagagtc ccacttgt 18
<210> 468
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<220>
<223> Synthetic oligonucleotide probe
<400> 468
actgctccgc ctactacga 19
<210> 469
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<212> DNA
<213> Artificial Sequence
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aggcatcctc gccgtcctca 20
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 aaggccaagg tgagtccat 19
<210> 471
<211> 20
<212> DNA
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<400> 471
 cgagtgtgtg cgaaacctaa 20
<210> 472
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   <213> Artificial Sequence
   <220>
   <223> Synthetic oligonucleotide probe
   <400> 472
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   <210> 473
   <211> 19
   <212> DNA
   <213> Artificial Sequence
   <223> Synthetic oligonucleotide probe
   <400> 473
    aaggccaagg tgagtccat 19
   <210> 474
   <211> 20
   <212> DNA
   <213> Artificial Sequence
   <220>
   <223> Synthetic oligonucleotide probe
1,1
1:2
   <400> 474
1, 1, 2
    cctactgagg agccctatgc 20
   <210> 475
   <211> 22
1 15 2
   <212> DNA
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   <220>
   <223> Synthetic oligonucleotide probe
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   <400> 475
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   <210> 476
   <211> 24
    <212> DNA
   <213> Artificial Sequence
   <223> Synthetic oligonucleotide probe
   <400> 476
    gggaggctta taggcccaat ctgg 24
    <210> 477
    <211> 50
   <212> DNA
   <213> Artificial Sequence
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<220> <223> Synthetic oligonucleotide probe

<400> 477
ggcttcagca gcacgtgtga agtcgaagtc gcagtcacag atatcaatga 50